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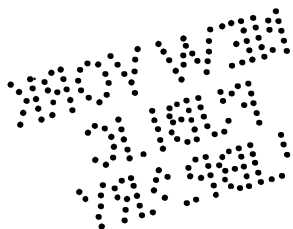
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A MANUAL
OF
COMPARATIVE PHILOLOGY

AS APPLIED TO THE ILLUSTRATION OF

GREEK AND LATIN INFLECTIONS

BY
Thomas Leslie
T. L. PAPILLON, M.A.

*Fellow and Lecturer of New College, Oxford
(Formerly Scholar of Balliol, and Fellow of Merton)*



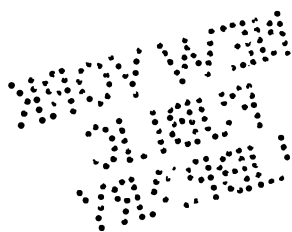
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PREFACE.

THIS book contains the substance of lectures delivered at Oxford in 1874 and 1875 to candidates for Honours in Classics at the First Public Examination, upon the prescribed subject of 'the Elements of Comparative Philology as applied to the illustration of Greek and Latin Inflections,' and therefore does not profess to deal with more than a very limited portion of the wide field covered by the Science of Language. In the course of my lectures I was often met by the difficulty of recommending to pupils any English text-book that would give them in a compact and accessible form the means of preparing the subject for themselves; and I had hoped that the want thus felt might have been supplied for our students by the Oxford Professor of Comparative Philology. So long as there was any prospect of help from that quarter, it would have been presumptuous in me to come forward. But Professor Max Müller has been unable to spare time from more important labours; and the preparation of this Manual has perforce been entrusted to inferior hands.

As to the educational value of the limited area of philological study which is here surveyed, I am aware that opinions differ. It is said, for example, that a study of the forms of Greek and Latin words is a mere effort of memory, testing neither the reflective powers nor the application of deductive method, and therefore not worth introducing as a separate subject into the curriculum of study for Classical Examinations at Oxford. *It might, I think, be asserted with equal truth*

that, inasmuch as some acquaintance with the history of Greek and Latin Inflections as read in the light of Comparative Philology is essential to an intelligent study of the grammar of those languages, some knowledge of the elements of that science might fairly be exacted from all candidates for classical honours. I am not however concerned with a defence of the study of Comparative Philology. Its bearings upon some of the most interesting problems of ethnology, of history, and of religion are too well known to require assertion; and if a mere knowledge of the forms of two or more languages seems to carry the student but a little way towards these higher regions of the science, it must be remembered that such elementary knowledge, small at first and gradually and carefully extended, is the only sure foundation for more advanced research, without which all enquiry into higher problems may lose itself in a wilderness of conjecture. I believe that a minute study and comparison of the forms of two such languages as classical Greek and Latin, or of two or more among the languages of modern Europe, with a due comprehension of the laws of phonetic change that have operated to produce existing divergences from common forms, is the best possible preparation for an adequate grasp of any of the higher problems into which the science of language enters. It has an interest too in itself; the interest of tracing in different languages the divergence, under regular processes of phonetic change, of words and forms common to them all; the interest of detecting meaning and force in much that appears at first sight arbitrary and unmeaning; above all, the interest of watching the *life* of a language and its perpetual growth and change in the mouths of those who speak or have spoken it. No apology, I think, is needed for any attempt to lay in the minds of boys or young men the foundation, however limited, of such a study.

The arrangement which I have adopted is that which has been found most convenient for teaching purposes. In its main outlines it is the same as that adopted by Schleicher in his '*Compendium der Vergleichende Grammatik*,' and by teachers *in the schools of Germany*, if I may judge from a useful little

summary entitled 'Sprachwissenschaftliche Einleitung in das Griechische und Lateinische, für obere Gymnasialclassen,' by Professor Baur of Maulbronn. It will be observed that the names referred to below as of leading authority are (unless England has by this time established a prescriptive right to Professor Max Müller) almost exclusively German; and it is not too much to say that at present Comparative Philology cannot be thoroughly studied without at least a moderate acquaintance with the German language. But the best German philological works (to say nothing of their size and cost) are often, from the very exhaustiveness of their treatment, only confusing to beginners, who require a smaller array of facts more simply and clearly arranged. And valuable as are the translations into English of such works as Bopp's 'Comparative Grammar,' Curtius' 'Principles of Etymology,' or Schleicher's 'Compendium,' to the advanced student or teacher, they are both in quantity and quality above the requirements of the schoolboy or the undergraduate during the first period of his University life: and to serve these is the less ambitious, but I trust not less useful, aim of the present work.

I am conscious of many defects in my own knowledge of the subject, especially of a very imperfect knowledge of the Sanskrit forms necessary for the illustration of corresponding forms in Greek and Latin. On this account I have not presumed to cite more Sanskrit words than appeared really necessary, doing my best to secure accuracy by reference to higher authorities, and trusting that no inaccuracies into which I may have fallen can altogether obscure the light which Sanskrit everywhere throws.

In matters of orthography I fear that I have not succeeded in maintaining entire consistency and uniformity. For instance, the consonantal or semivowel sound of *i*, which we denote in English by *y*, and in Latin words by *j*, is represented sometimes by *y* (as on pp. 49, 70, 71, 72, 140, etc.), sometimes by *j* or *i* (as on pp. 95, 173, 191, 194, etc.). So far as such irregularity can claim for itself any principle, it is this—to use *y* where the chief object is to make clear to English ears *what sound* (irrespective of etymology) is intended; *j* or *i*

(a) where it is important to keep in sight the connection with the purely vowel sound of *i*. Purists in Latin orthography will perhaps object to any employment of the characters *j*, *v* for the consonantal sounds of *i* and *u*; but the practical convenience of sometimes using distinct characters for distinct sounds may be pleaded in excuse. In column V of the table on p. 40¹ will be found stated the *probable* pronunciation of the letters of the Roman alphabet; and where this differs from the English pronunciation of the same letters (as in the vowels *a*, *e*, *i*, *u*, the consonants *c*, *g* before *e*, *i*, and the semivowels *j*, *v*), the former, not the latter, pronunciation is presumed in all Latin words cited. With this caution, I hope that any confusion as to the relation between the letters in question and the sounds represented by them, into which English usage might lead us, may be avoided.

It only remains to express my thanks to the Rev. G. G. Bradley, Master of University College, for assistance and advice in the preparation of this work for the press; to Professor Max Müller (though he is not responsible for anything beyond quotations from his published works) for useful hints in regard to Sanskrit terms employed; and to the Delegates of the Clarendon Press for the care taken and courtesy shown in all arrangements for publication.

T. L. P.

OXFORD, 1876.

¹ I regret that a very obvious error in this Table should have been allowed to pass without correction. At the bottom of column V, the Roman letters Y, Z are said to be later introductions 'to represent *qu*, *z*, *y*,' an unmeaning statement, which is really corrected in the text on p. 44, l. 23. It should of course read 'to represent Greek *υ*, *ζ*.'

LIST OF AUTHORITIES REFERRED TO IN THE PRESENT WORK.

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MAX MÜLLER, 'Lectures on the Science of Language.'

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CORSSEN, 'Ueber Aussprache, Vokalismus und Betonung der Lateinischen Sprache.' 2nd edition, 1868. (*The authority for Latin philology, and the storehouse from which Peile, Roby, Wordsworth, and others mentioned below, have drawn much of their information.*)

'Kritische Beiträge,' and 'Kritische Nachträge sur Lateinischen Formenlehre.'

CURTIVS, 'Grundzüge der Griechischen Etymologie.' 2nd edition, 1866. (The first volume of a translation into English by Prof. Wilkins and Mr. England, of Owens College, Manchester, has appeared.)

'Tempora und Modi,' an admirable treatise on the formation of Tenses and Moods in Greek and Latin. Berlin, 1846. (Now out of print.)

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CONTENTS.

CHAPTER I.

	PAGE
INTRODUCTORY	1-3

CHAPTER II.

CLASSIFICATION OF LANGUAGES—

'Morphological' and 'Genealogical' classifications—Table of the Indo-European family—Table of correspondence between its members—'Romanic' or 'Romance' languages; their origin—Table of correspondence between them—Features of change from synthetic to analytic languages exhibited by them	4-26
--	------

CHAPTER III.

CLASSIFICATION OF SOUNDS—

General principle of phonetic change to secure ease of articulation—Comparative strength or difficulty of sounds according to the physical conditions of their production—Consonants; their threefold classification—Vowels and Diphthongs. Relation of sounds to letters—Sanskrit alphabet	27-38
---	-------

APPENDIX TO CHAPTER III—

On the Greek and Roman alphabets	39-45
--	-------

CHAPTER IV.

CHANGES AND MODIFICATIONS OF SOUNDS—

General principles—'Dynamic' change: Reduplication, Vowel-Intensification, and Nasalisation—'Phonetic' change: Substitution, Loss, Assimilation, and Dissimilation of Vowels and Consonants—Changes due to indistinct utterance—National peculiarities of utterance—Grimm's Law	46-86
---	-------

CHAPTER V.

FORMATION OF WORDS—

PAGE

Radical and Formative Elements—Roots, Stems, and Inflections—Processes of Word-Formation—Derivative Suffixes . 87-97

CHAPTER VI.

NOUN-INFLECTION—

Number of Cases—Gender and modes of generic distinction—Declension—Suffixes of Case-Inflections in detail—Comparison of Adjectives—Paradigms 98-133

CHAPTER VII.

INFLECTION OF PRONOUNS—

Pronouns without Gender: First and Second Personal, and Reflexive—Paradigms—Pronouns with Gender: Paradigm of stem *tu*—Peculiarities of Latin Pronominal Declension . 134-149

CHAPTER VIII.

VERB-INFLECTION—

Distinction between Noun and Verb—Augment, Connecting Vowel—Classification of Verbs—Person-Endings—Mood-Signs—Tense-Stems and their formation—Infinitives and Participles 150-220

APPENDIX I.

Specimens of Early Latin Inscriptions 221

APPENDIX II.

Formation of Adverbs in Greek and Latin 228

APPENDIX III.

Derivative Verbs in Greek and Latin 236

CHAPTER I.

INTRODUCTORY.

THE main object of the present work, as indicated by its title, ^{Object of the work.} is the philological explanation of the Inflections in Greek and Latin. For the purposes, however, of such explanation it is necessary to presume a certain acquaintance with the main results of the Science of Language or Comparative Philology, and with the terms commonly in use among philologists; and we must begin with a clear understanding, (1) of the general classification of Languages, and the place in the history of human speech of those languages with which we are immediately concerned, viz. Greek and Latin; (2) of the classification of Sounds and the letters by which they are represented, and of the processes of change which sounds have undergone in human speech; (3) of the constituent elements of language — i. e. 'roots' or simplest forms, and formative elements, including Inflections. Into questions of the origin of language, and the connection between its simplest discoverable forms and the ideas expressed by them, we need not enter. The balance between the two extreme views of language as a conventional ^{Preliminary questions.} ¹

¹ The view that language is 'conventional,' in the sense that people meet or ever met together to deliberate on the meaning and changes of words, is of course easily ridiculed. The term, however, may also be applied to language in opposition to the idea that there is any *necessary* connection between words or 'roots' and the ideas signified by them, or that there are organic forces of growth in speech itself which, by some mysterious natural process, without human agency, produce new material

discussion
the Nature
and Origin
of Language
necessary.

production—a view based upon the apparent meaninglessness of its formal elements—and language as an organic being, producing those formal elements by virtue of a mysterious principle of growth inherent in its nature, has been clearly drawn by Professor Max Müller in those Lectures on the Science of Language¹, ‘to whose world-wide popularity (it has been well said) Comparative Philology owes its present position and its present charm:’ and for this question, with others that relate to the aim and methods of Comparative Philology, we cannot do better than refer to a book which for every English student of that science should be the avenue by which he approaches it. But we may examine the relation of Latin and Greek words to each other or to Sanskrit, or trace the history of varying forms in any one language, without touching such questions as that of the Onomatopoeic or Interjectional origin of human speech (the ‘Bow-Wow’ and ‘Pooh-Pooh’ theories of Professor Max Müller), or deciding whether language arose from imitations of cries and sounds (as it often does in the nursery) or from exclamations expressive of pleasure or pain or other emotions of mind or body. The furthest researches into the history of language and the utmost possible analysis of written or spoken languages bring us to certain primitive and elementary combinations of

and alter old. These ideas exercise a kind of fascination over many students of language; but it is reasonably maintained that spoken language (as distinct from the *faculty* of language implanted in man) is an external medium of communication, learnt in childhood by mere imitation, and not inherited as a race-characteristic, or independently produced by each individual with his mental and bodily growth. The acquisition by each individual of his own language in childhood is the gradual accumulation, by imitation of those around him, of a stock of signs, which are so far arbitrary and ‘conventional,’ in that each is bound to the idea signified only by a tie of mental association, and not by any natural and necessary connection. ‘Language’ is not a faculty or capacity, but a developed result; and the assumption that man is gifted at his birth not only with the capacity, but also with its elaborated results, is a theory, not of a Divine, but of a ‘miraculous’ origin of speech.

The question of the Nature and Origin of Language has been recently treated in a popular form, by Prof. Whitney in his ‘Life and Growth of Language’ (see especially ch. xiv). He assigns a more important place to the ‘imitative’ or ‘onomatopoeic’ principle than some philologists allow; but on a question of this nature much latitude of opinion is possible, and his remarks are very suggestive and instructive.

¹ See Lectures, Series I. Lect. v. on ‘Comparative Grammar.’

sounds which we call 'roots;' but we cannot arrive with any certainty even at the ultimate *form* of these roots. The earliest traceable condition of that 'Indo-European' speech, of which (as we shall see) Sanskrit, Greek, and Latin, with the other languages comprised under that term, are dialectical varieties, is evidently far removed from the primeval time when language first arose—as is clear, among other reasons, from its highly developed vowel-system, and the employment of vowel change rather than the earlier and simpler method of reduplication¹ to express modifications of ideas: and therefore speculations as to the connection between its elements and the ideas expressed by them can be of little use for the purposes of a science which (as Professor Max Müller points out) collects *facts* and accounts for these facts as far as possible. It is at least probable that language owes its origin to a combination of imitational and interjectional sounds: for it is difficult to assign any other origin to speech, and the phenomena of dawning speech in infants point to this as one natural origin for conscious sound: but the existing materials of language, with which alone Philology has to do, give us no data upon which to base any calculations as to the exact mode in which such growth of speech began. Passing by, therefore, such questions as unpractical and insoluble, we may proceed to the consideration of the points already mentioned as introductory to the explanation of Greek and Latin Inflections; viz. the classification of languages, the classification of sounds, the changes and modifications of sounds, and the elements of word-formation. These will occupy the next four chapters, and the discussion of Inflections properly so called will follow in chap. vi.

¹ On this point consult Peile's 'Introduction to Greek and Latin Etymology,' and see below, ch. iv.

CHAPTER II.

CLASSIFICATION OF LANGUAGES.

Twofold
classifica-
tion of lan-
guages.

GREEK and Latin are 'inflectional' languages of the 'Indo-European' family, which term refers to a further classification, viz. (a) *morphological*, according to the mode in which modifications of ideas are expressed by combination of primitive elements; (b) *genealogical*, according to similarity of grammatical forms.

a. Morpho-
logical.

(a) The 'morphological' classification distinguishes three 'stages' of growth in language¹ :—

1. 'Radical' or 'Isolating,' in which the simplest elements of speech or 'roots'² are employed as words, without modification of their own sounds or combination with each other: mere juxtaposition of isolated roots expressing modification of ideas. Chinese and its kindred dialects are examples of this stage.

2. 'Agglutinative' or 'Terminational;' in which roots are joined together to form words. In such compounds one root loses its independent form, and appears as a sound expressive of meaning tacked on (as prefix or suffix) to the other, which

¹ For details which are beyond the province of the present work, see Max Müller's Lectures, Series I. Lect. viii (on 'Morphological Classification').

² It is necessary here to anticipate the distinction (explained below in ch. v.) between the '*radical*' elements in words or '*roots*,' i. e. the simplest part of each word which expresses its general idea or meaning, and the '*formative*' elements by which this general idea, common to many words, is *defined* and *modified*. For purposes of instruction, ch. v. may, if it seems convenient, be taken before ch. ii.

remains as the primitive element or 'root' of the word. The Finnish and Tartar languages, and the dialects of the aborigines of the Pacific Islands (grouped by Professor Max Müller and others under the name 'Turanian') appear to be in this stage.

3. 'Inflectional;' in which both roots (i. e. the 'root' proper and the suffix) are modified according to regular processes for the expression of meaning. The Semitic and Indo-European families of speech fall under this head.

This classification may be illustrated by constructing an imaginary history, passing through these three stages, of some Greek or Latin word, e. g. $\epsilon\iota\mu$ (*ibo*). The ultimate forms or 'roots' to which philological analysis has reduced the two syllables of which this word is composed, are *i* (idea of 'going') and *ma* (1st personal pronoun). We should have these roots combined in the Radical stage by simple juxtaposition [*i ma*]; in the Agglutinative, by suffixing one to the other, and modifying the root thus suffixed [*i-ma*, *i-mi*]; in the Inflectional, by modification of both roots [*ai-mi*, $\epsilon\iota\mu$].

Illustration
of the three
stages of
morpholog-
ical growth.

The student must bear in mind that this is a classification, not of languages, but of varieties of linguistic development; and that though, when we speak of Chinese as 'Isolating,' Hungarian as 'Agglutinative,' Greek and Latin as 'Inflectional,' we give a correct idea of the general characteristics of those languages, and their *structural* contrast to each other, we do not imply that there is in any one of these languages no trace of the structural characteristics of the others. The higher 'agglutinative' dialects (e. g. Finnish and Hungarian) are almost inflectional, and in some respects analogous to the Indo-European languages; while in inflectional languages many forms are found in which the 'root' maintains its own form and distinction from the suffixes, no less completely than in an agglutinative language. Thus to take the Greek word just employed as an illustration; beside $\epsilon\iota\mu$, a typical inflectional form, we have $\tilde{i}-\mu\epsilon\nu$, $\tilde{i}-\epsilon$, in which the root proper remains unmodified. Again, beside $\epsilon\iota\mu$ (*sum*), we have the dialectical variety $\epsilon\sigma\mu$ (Aeol.), in which the root *as* of the Sanskrit *asmi* remains in a much less modified form—the ϵ being only a phonetic variety of α (see

The three
'stages' no
always mu-
tually exch-
angeable;

p. 34)—and which in this respect of root modification marks a transition stage, and that not very far upon the road, from Agglutination to Inflection. And as in English the line between mere juxtaposition and word composition is often hard to draw, cp. e. g. ‘house floor’ and ‘housetop,’ ‘godlike’ and ‘godly,’ so it is often in languages of low development a matter of doubt where isolation ends and agglutination begins; and even Chinese, the purest example of the first, is by some regarded as being in its colloquial forms and in some of its dialects a language of compounded words.

not always
historical for
each lan-
guage.

On the other hand¹, it is misleading to speak of these ‘stages of development’ as marking a definite *historical* progress of individual languages from a lower to a higher state of civilisation. Philology offers no proof that inflectional languages have ever actually passed through an agglutinative stage of development, or that isolating languages have passed on with increasing civilisation to an agglutinative and finally to an inflectional stage. Facts indeed point in the other direction, and show that ‘an isolating or agglutinative stage does *not* imply civilisation or the reverse, and that no amount of culture, no amount of years, and no amount of foreign intercourse, has been able to change the radical character of a language².’ Chinese civilisation is the oldest now existing; yet its founders spoke an isolating language, while their barbarous neighbours were in a more advanced stage of agglutination: and yet all their unbroken civilisation, and the intercourse through the introduction of Buddhism with those who spoke an inflectional language, have not caused any sensible advance in the Chinese language from the ‘isolating’ to an ‘agglutinative’ or ‘inflectional’ stage; and yet ‘phonetic decay has been at work in the vocabulary, dialects have sprung up in the empire, new words have been applied to denote the relations of grammar.’ Again, though analysis of the inflections of the Indo-European verb seems to point to an earlier agglutinative stage and a still earlier period

¹ Mr. Sayce (‘Principles of Comp. Philology,’ ch. v.) makes an instructive protest against the abuse of the theory of three stages of development.

² Sayce, l. c. p. 137.

of simple isolated roots, we cannot as a matter of fact point to a period when the two parts e. g. of $\epsilon\dot{\iota}\mu$ were ever of full and equal power as independent words; and though we may trace formative suffixes back to roots with general meanings [e. g. *-tar* in *pater*, *mater*, etc., and the terminations in *-rop*, *-tor* of nouns of agency, to the root=to 'cross' or 'get through' (with a thing) which appears in *trans* and *through*], we prove nothing with regard to an isolating or agglutinative stage in what are, and so far as our evidence goes always have been, inflectional languages. Comparison and analysis of the Indo-European languages enable us to form some conception of the state of civilisation attained by those who spoke the primitive mother tongue upon the table lands of Central Asia—a civilisation probably much below the contemporary civilisation of China; yet the language of China remained in the isolating stage, while that of our Indo-European ancestors must (if we regard development through all three stages as necessary) have already passed from the stage of isolation through that of agglutination to the inflectional stage, in which it is presented to us by the earliest ascertainable *data* of Philology. These *data* show us the case and person endings, for example, in the condition of grammatical forms—inflections or modifying suffixes; and there is no trace, as far as meaning goes, of their having ever been separate or agglutinated particles. While Chinese has remained in the most primitive stage, fossilised, so to speak, like the whole Chinese civilisation, the Indo-European languages, so far as we can trace them, have always been in the most advanced stage: but for enquiry into the causes of this difference, which is an enquiry into the mental characteristics of the different races of mankind, the facts of language offer no foundation: and it is of these facts alone (as has already been said) that Comparative Philology takes cognisance.

(b) Genealogical Classification:—

This classification gives us three main 'families' or groups of languages, according to similarity (a) in vocabulary, (b) in grammatical forms: viz.

1. *Semitic*, including Hebrew, Arabic, and their kindred dialects.

2. *Indo-European* (otherwise called 'Indo-Germanic' or 'Aryan'), including the following subordinate families or groups—Indian, Persian, Greek, Italian, Keltic, Slavonic, and Teutonic.

The languages comprised under both these heads are 'inflectional.'

3. *Turanian*¹ (otherwise called 'Ural-Altaic,' 'Mongolian,' 'Tataric,' or 'Scythian'), including the languages of the nomadic races of Asia and Europe (Laplanders, Hungarians, Samoyeds, Turks, Mongols, Tartars, etc.), and the dialects of Siam, Malay, and the Polynesian Islands. These languages are all 'agglutinative,' and though it is impossible to trace in them anything like the same family likeness of vocabulary or grammatical forms, as in the Indo-European or Semitic groups—the absence of such family likeness being one distinguishing feature of the dialects of a nomad population, among whom no nucleus of a political, social, or literary character has ever been formed, which could give fixity to and create definite standards for language—we may accept, as sufficient warrant for the application to them of the term 'family' or 'group,' the statement that 'some of the Turanian numerals and pronouns, and many Turanian roots, point to a single original source; and the common words and common roots which have been discovered in the most distant branches of the Turanian stock, warrant the

¹ The name '*Turanian*,' familiar from its use by Prof. Max Müller, is retained as a designation of the 'class' or 'family' of languages, for which some prefer one or other of the names here quoted. See Sayce, p. 21, note; Whitney, '*Life and Growth of Language*,' pp. 231, 232. On the phrase '*Turanian family*,' to which exception has been taken, Prof. Max Müller remarks, 'If "family" is only applicable to dialects so closely connected among themselves as the Aryan or Semitic, it would no doubt be preferable to speak of the Turanian as a "class" or "group," and not as a "family" of languages. But this concession must not be understood as an admission that the members of this class cannot claim a common origin, and that they are held together, not by genealogical affinity, but by morphological similarity only.'

admission of a real, though very distant, relationship of all Turanian speech¹.

It is, however, with the 'Indo-European' languages that we are now concerned. The fact implied by this name is now a familiar truth established by Comparative Philology, viz. that a comparison of the languages of all the civilised races of Europe, and two at least of those of Asia (Indian and Persian), proves beyond doubt that these languages are branches of a common stock, and with reasonable probability that there was once a time when the ancestors of Germans and Slaves, of Greeks, Italians, and Kelts, of Persians and Hindoos, were settled in a rudimentary stage of civilisation upon the plains of Central Asia, and spoke the same language, subject to such dialectical variety as must always arise in a primitive state of society, with imperfect communication between the scattered members of a single nation or even of a single tribe. This time is, however, pre-historic; and though, upon the evidence of language, philologists sketch out for us the state of civilisation and manners of this primitive people, and even claim to restore the 'Ur-sprache' or primitive language,² anterior to any dialectical variation, we cannot regard these as historical facts, the only facts before us being the phenomena exhibited by different kindred languages, by Sanskrit, Greek, Latin, etc., which we group under the term 'Indo-European.'

This term seems to be that of widest meaning, and most obviously inclusive of all the languages in question. The name *Indo-Germanic*, employed by many German scholars, is hardly comprehensive enough of the European branch of the family; while the names *Sanskritic*, *Japhetic*, and *Mediterranean* (suggested by Ewald), are each open to the objection of countenancing misleading notions³. There remains the term *Aryan*,

¹ Max Müller's Lectures, I. viii.

² Wherever in the following pages reference is made to the primitive 'Indo-European' form or 'type' of words in kindred languages, such type must not be conceived of as having, or having at any time had, real existence, but as an imaginary form showing in combination the elements which have been differently retained in different languages.

³ *Sanskritic* might suggest the idea that all Indo-European languages are derived from Sanskrit; *Japhetic*, from the Hebrew point of view of the

popularised in this country by Professor Max Müller's Lectures, and employed by many philologists as a designation of the Indo-European family; but by some in the more restricted sense of *Indo-Iranian*, i. e. to denote the Asiatic sub-division of the Indo-European family. This latter usage, however, is likely to create no little confusion with its much more frequent use in the wider signification of Indo-European¹.

Subdivisions
of the Indo-
European
family.

The languages comprising the Indo-European (or Aryan) family may be arranged thus in three main divisions:—

A. Asiatic containing—

I. *Indian*.

- a. Sanskrit, the ancient literary language of the Vedas, or sacred books of the Hindus: Prakrit being the provincial dialect of the mass of the community.
- b. Modern Indian dialects, Hindi, Bengali, Mahratti, etc.

II. *Iranian*.

- a. Zend (or Old Bactrian), the language of the Zend-Avesta or sacred books of the religion of Zoroaster.
- b. Old Persian, of the 'cuneiform' inscriptions.
- c. Modern Persian.
- d. Armenian.

three ancestors of the human race, would include tribes in Northern Europe and Asia who speak Turanian languages: while *Mediterranean* refers only to one phase in the history of Indo-European nations, and the central position once occupied by, but now no longer belonging to, the people who spoke these languages.

¹ The term *Aryan* has the advantage over *Indo-European* of being short and (as a word of foreign origin) of lending itself more easily to any technical definition that may be assigned to it: and as a mere ticket or label of classification, there is no doubt much to be said for its use. I should not therefore presume to discard it altogether; but I still think that the fact implied on the face of the term *Indo-European* (a term sanctioned by the high authority of Bopp) is a good reason for on the whole preferring this latter term. The existence too of another and more limited use of the term *Aryan* (as = Asiatic or Indo-Iranian) is somewhat against its acceptance as the technical term for the whole family of languages, however great the preponderance of authority for the wider use. In deference, however, to this authority, it should be retained as a collateral term with *Indo-European*. For the origin and uses of the term *ārya* I need only refer to Prof. Max Müller's Lectures, I. vi. pp. 224-236, 1st edition.

B. South-West European Division :—

III. *Greek.*

- a. Ancient.
- b. Modern.

IV. *Italian.*

- a. Latin, Oscan, Umbrian, the three dialects of ancient Italy.
- b. The modern 'Romance' (or 'Romanic') languages ; viz. Italian, Spanish, Portuguese, Provencal, French, Wallachian, Romansch.

V. *Keltic.*

- a. Cymric or Armorican, including Cornish, Welsh, and the dialect of Brittany.
- b. Gadhelic, including Gaelic, Erse, and Manx.

C. North-West European Division :—

VI. *Slavonic.*

- a. Lettic—Old Prussian and Modern Lithuanian.
- b. Slavonic Proper—Bulgarian, Russian, Polish, Bohemian.

VII. *Teutonic.*

- a. High German (spoken in the upper countries of the Rhine, Main, and Neckar), including Old High German and Modern German.
- b. Low German (in the Lowlands of North Germany, Holland, and Belgium), including (1) Gothic, Anglo-Saxon, and English ; (2) Old Saxon and Frisian, and Dutch.
- c. Scandinavian — Old Norse and Modern Icelandic, Swedish and Danish.

Of these sub-divisions the Asiatic (A) contains most that is Comparativ-
antiquity
and order of
separation
from primi-
tive stock. ancient in sounds and fabric of language, and fewest strongly-developed individual forms. The South-West European (B) stands next in this respect ; while the North-West European group (C) shows most individuality of development, and fewest remains of a common stock. The diffusion of this common stock under all *these different forms* over the Continent of Europe is generally

TABLE OF THE INDO-EUROPEAN FAMILY OF LANGUAGES.

(Those above the horizontal line are *dead* languages, those below it living or spoken languages.)

ASIATIC.		S.W. EUROPEAN.		N.W. EUROPEAN.		
<i>I. Indian.</i> Sanskrit. Prakrit ¹ , Pali.	<i>II. Iranian.</i> Zend. Cuneiform In- scriptions.	<i>III. Greek.</i> Classical Greek Dialects : Ionic, Doric, Aeolic, Attic.	<i>IV. Italian.</i> Italian Dialects : Oscan, Umbrian, Latin.	<i>V. Celtic.</i> 1. Cymric : Cornish (late- ly extinct) .	<i>VI. Slavonic (and Lettic).</i> Old Bulgarian (or ² Church Slavonic). — Old Prussian ⁴ .	<i>VII. Teutonic.</i> 1. Old High Ger- man. 2. Gothic, Anglo-Saxon, Old Saxon. 3. Old Norse.
Modern Indian Dialects : Hindi, Bengali, Mahratti, etc. Gipsy Dialects (Hindu patois).	Modern Persian, Armenian, Kurdish, Afghan ³ .	Modern Greek.	'Romanic' Lan- guages : Italian, Spanish, Portuguese, Provençal, French, Wallachian, Romanesch.	Welsh. Breton. 2. Gadhelic : Gaelic, Erse, Manx.	Bulgarian. Russian. Polish. Bohemian. — Lithuanian. Livonian (or Let- tish) ⁵ .	1. German. 2. English, Frisian, Dutch, Flemish. 3. Icelandic, Swedish, Danish.

¹ Prakrit, a provincial corruption of the purer Sanskrit of the educated classes, preserved in the dialogue of some of the Sanskrit dramas. A Prakrit dialect, Pali, is preserved as the sacred language of Buddhism to the E. and S.E. of India.

² The Afghan is by some considered an Indian dialect.

³ The language of N.E. Prussia, extinct for the last 200 years, and only surviving in a short catechism.

⁴ Spoken in Kurland and Livonia.

⁵ The sacred language of the Greek Church.

recognised as the result of successive migrations westward from the original home of the Indo-European or Aryan nations in Central Asia¹: and this being so, the phenomena just noted lead us to infer that the first to separate and lose connection with the parent stock were the ancestors of the nations comprised under group (C); that these were followed by the ancestors of those under group (B); the 'Aryan' proper comprised under group (A) alone remaining East of the Ural Mountains. This inference from the phenomena of language is borne out by the geographical position of the different branches of the race. If we take a map, we shall find that, as a general rule, the more eastward the position of an Indo-European people, the more traces of what is old and common to other languages of the same family are retained in its language; while the further north-west and west they have gone, the less of what is old and the more new formations does their language retain. Nor does the westernmost position of certain languages in the group which stands second in order of separation (e.g. the French, Spanish, and Keltic), interfere with the truth of this general statement; such position being due to special historical causes, e.g. the spread of the Roman Empire to the Atlantic Ocean, and (in the case of Keltic) the gradual pressure of the Teutonic nations, driving the Kelts further and further westward. These Kelts, whom we meet with as the conquerors of Rome under Brennus (B.C. 390), and 100 years later as the invaders of Macedonia and Greece, and of whom Herodotus speaks as dwelling in the extreme west of Europe², apparently in Spain, must have spread into

¹ It must, however, be remembered that the evidence of successive order of separation, furnished by the closer relationship of particular dialects, is at the best vague, and the conclusions drawn from them indefinite and uncertain, so far as anything like the establishment of a historical order of separation is concerned. If it can be shown that Latin is most closely connected with Greek, it can, on the other hand, be shown that in many respects Greek is most closely connected with Sanskrit: and probably all that it is really safe to affirm is that the various dialects of the Indo-European family after a long continued community separated gradually, until under different circumstances they established their respective national independence.

² Hdt. ii. 33, iv. 49. He speaks of them as *ἔξω τῶν Ἑρακλείων στηλέων*, and (after a tribe called *Κίνηται*) *ἐσχατοὶ πρὸς ἡλίον δυσμέων τῶν ἐν τῇ Εὐρώπῃ*. His language is that of a man living on the shore of the Medi-

Switzerland and Tyrol ; and, after occupying Gaul, Belgium, and Britain, were driven by pressure of the Teutons to the extreme north and west of Gaul and the British Islands, 'where their language has survived to our own day, though gradually disappearing (like Cornish) under the influences of increased communication with the mass of the English speaking population. Some philologists, indeed, take a different view, and maintain that, looking to the *present* distance from the original home of the respective Indo-European nations, the Kelts must have been the *first*, and the Slavonians the *last* to move westward ; and that the Slavonians finding the rest of Europe occupied, were forced to make their new home in its northern and eastern regions. This *may* be so ; but in the absence of history, language (which has been called 'fossilised history') is our best guide ; and language seems to postulate a longer separation from the primitive stock in the case of the Teutonic and Slavonic groups than for any of the others.

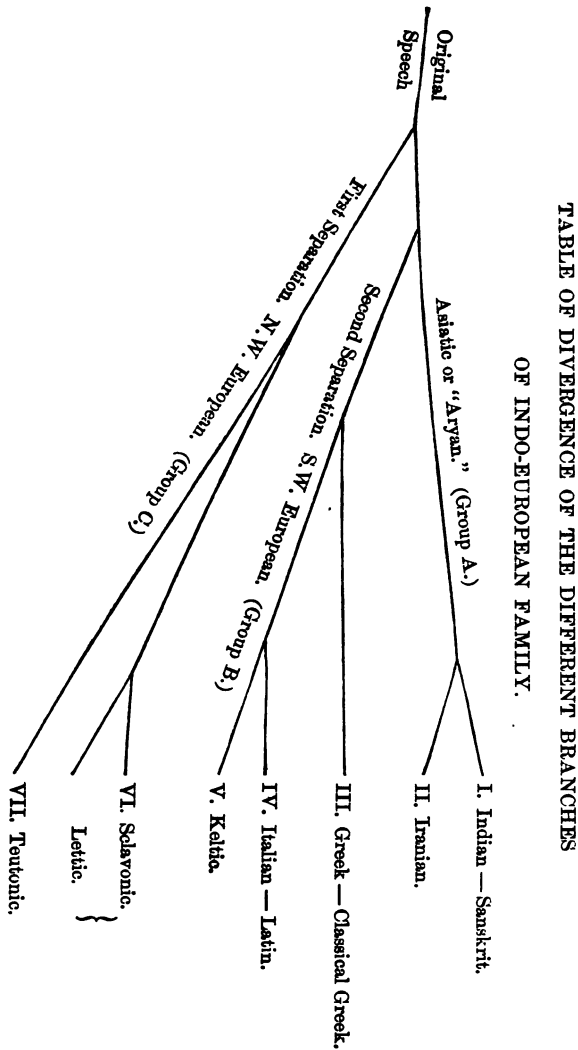
The following diagram (adapted from Schleicher's 'Compendium') will illustrate the successive migration and bifurcations of the Indo-European family — the separations being indicated by lines striking *downwards*, and the degree of separation or proximity by greater or less deflection from the uppermost line. The vertical order of the column to the right hand corresponds to the horizontal order of the previous Table.

Relation-
ship of San-
skrit, Greek,
and Latin.

On looking down the right-hand column, we find that the three first languages of which any considerable literature remains are *Sanskrit*, *Greek*, and *Latin*, all 'dead' languages, embodied in their respective literatures, not subject to the constant changes of spoken languages, and therefore retaining a more complete inflectional system than any other languages known to us, though even in them the inflectional system is

terranean, to whom all knowledge of these western countries came from people who had sailed *through* the Straits of Gibraltar, *outside* the so-called 'Pillars of Hercules.' For other examples of Herodotus' relative use of terms 'from a Mediterranean point of view,' compare i. 6, ἐν τῷ Ἀλφειῷ ποτάμῳ : i. 74 (of the Halys), πέραν ἄνω, and an instructive note to the latter passage in Woods' edition ('Catena Classicorum' series).

ady in a state of decay. These three languages thus form basis of philological enquiry for the Indo-European branch



human speech; and for the illustration of the inflectional system of any one of them, the three together furnish all or

nearly all the available data. It is important to understand clearly their relationship, as parallel branches of a common stock, in the same generation of the genealogical tree. They are sisters, or at furthest cousins; and are not in any sense derived from each other. Latin is not *derived* from Greek, neither is Greek or Latin *derived* from Sanskrit, in the sense in which the modern Romance languages are 'derived,' i. e. descended from, classical Latin. This relationship may be proved by internal evidence from any of the languages given in our Table. Thus Greek *ἀστὴρ*, Latin *stella* (= *ster-ula*), German *stern*, English *star*, must be fuller and therefore older forms than Sanskrit *tārā*, in which the initial *s* has been lost. Or again, if we take the grammatical forms, e. g. of *εἰμι* [Sanskrit *asmi*, Latin *sum*], we shall find that in 1 sing. Latin *sum* retains the *s* of the root *as* (*es*) which Attic Greek *εἰμι* has lost; in 2 sing. Aeolic Greek *ἐσ-σι* is more perfect than Sanskrit *asi*; in 1 plur. Greek *ἐσ-μεν* retains the full root *es* (*as*) as compared with Sanskrit *smas*, while the Latin termination *-mus* (Sanskrit *-mas*) is older than Attic Greek *-μεν*, the older dialects preserving *-μες*: in 2nd plur. Latin *estis* is the most complete form, Greek *ἐστέ* the next, Sanskrit *stha* the most mutilated, having lost both initial and final letter; in 3 plur. Latin *sunt* (Sanskrit *santi*), is fuller than the oldest dialectical form in Greek [*εἰσι* Doric and Aeolic], from which the root *es* has entirely disappeared—much more so than the still more weakened form *εἰσι*. The Teutonic languages retain a correspondingly stronger form than Greek, in German *sind*. French *sont*, Italian *sono*, Spanish *son*, are modifications of *sunt*. A similar comparison of grammatical forms is employed by Professor Max Müller (Lectures, Series I. Lect. V), to refute the theory that French, Italian, and Spanish, are derived from the Provençal language, which is, according to that theory, the only true 'daughter' of Latin. French *sommes*, *êtes*, *sont*, besides Provençal *sem*, *etz*, *son*, are justly pointed to as fatal to such a theory.

Evidences
of relation-
ship be-
tween lan-
guages.

It may be well to subjoin a few specimens of that correspondence between the Indo-European languages which is at once the evidence of their relationship and the basis of their

classification into families. The evidence is twofold, (a) in vocabulary, (b) in grammatical structure.

(a) In vocabulary, it is easy to find in any two of these languages numbers of common words, and to prove them all related by proving each one related with each of the rest in succession—Latin with Greek, Greek with Sanskrit, Slavonic with German, and so on. But for words identical in all or nearly all branches of the family, we are restricted to such special classes of words as *numerals* and *pronouns*. These appear to have been less varied by multiplication and substitution of synonymous terms than any other class of words—except, perhaps, the terms indicating degrees of near relationship, *father*, *mother*, *daughter*, *brother*, etc.; and hence all the Indo-European nations, however widely separated, and however different in manners and civilisation, count with the same words and use the same pronouns in individual address; allowance, of course, being made for the changes brought about by the phonetic laws of individual languages.

(b) Stronger still is the evidence of correspondence in grammatical structure, as shown in a common system of word-formation, declension, and conjugation. This portion of language is that which, in the case of intermixture of languages, by the adoption into one language of terms belonging to another, most resists any trace of intermixture. A foreign word admitted to citizenship in another language is declined or conjugated on the system of the language which has adopted it; and the study of language offers no trace of a mixed grammatical apparatus in the same language. This being so, uniformity of grammatical structure in a number of distinct languages must be one of the strongest proofs of their substantial unity.

The following table exhibits specimens of the correspondence, in vocabulary and inflection, of the Indo-European languages:—

Table of Correspondence between Members of the Indo-European Family of Languages.
A.—VOCABULARY.

		I.		II.		III.		IV.		V. Slavonic.		VI. Teutonic.													
		Sanskrit.		Greek.		Latin.		Welsh (Keltic).		Old Slavic.		Russian.		Gothic.		Anglo-Sax.		German.		Dutch.		Danish (Scandinavian).		English.	
Numerals: 1 2 3 4 5 6 7 8 9 10	ekas	εἷς	duo	un	yedino	odin	ains	an	ein(s)	een	to	one													
	dvi	δύο	tres	du	dova	tya	twai	tya	zwei	twee	tre	two													
	tri	τρεῖς	quatuor	tri	tri	tri	threis	thri	drei	drie	tre	three													
	catuṛ	τέτταρες	quinque	pedwar	kâtûrye	estrye	fidbôr	feover	vier	vier	fyre	four													
	pañcan	πέντε	sex	chwech	panitś	piat'	finf	fif	viñf	viñf	fem	five													
	ṣaṣ	ἑξή	septem	saith	sestś	sest'	safus	six	sech	zes	seks	six													
	saptan	ἑπτά	octo	saith	sedm	sem'	sibun	seofon	seven	zeven	siv	seven													
	ashtan	ὀκτώ	novem	naw	devantś	deviat'	nun	cabita	acht	acht	otte	eight													
	navan	ἐννέα	decem	deg	desantś	desiat'	tahun	nigon	neun	neun	ni	nine													
	dasan	δέκα	me	tu	mę	mia, menia	mi-k	tyu	(moe) me	mich	mij	ten													
Pronouns: 1 pers. (acc.) 2 pers.	mā-m or mā tvam	ἐγώ, ἔγ σύ																							
Relationships:	mātar bhṛātār dhitār	μήτηρ φιλία φιλία	mater frater	mathair brathair	moter + brotis + dukter +	mater brat dochy	brothar danitar		mutter bruder tochter	moeder broeder dochter	modhir brodhir dotir	mother brother daughter													
Words:	danta kit *	δόντις = δόνη-ς	dons [gatto (Ital.)] [catulus]	dant cath	danti +	kot	tunthus	toth	zahn katze	tand kat	tand kat	tooth cat													
Root VID { know (discern) JAL { condense (coldness)	vidan (discerning) jam (coldness)	φιδν κρῖας	video gelu		wiedati cholod		{ wita { wait kalds	wissen	wissen			wit cold													
Verb: 1 sing. 2 3 " 1 plur. 2 3	as-mi asi " 1 plur. 2 3	εἰμὶ, ἐσμι ἐστί ἐσμεν, ἐσμεν ἐστέ, ἐστέ ἐσσι, ἐσσι	sum es est sumus estis sunt	-m -d -m -d -t	ies-mi iesi iesi iesmu iesie sati	esmi + esi + esti + esmo + este +	im = ismi is = issi ist (sijum) (sijuth) sind	(bin) (bist) ist sind seid sind	(bin) (bist) ist sind seid sind		am art is are														

The most familiar illustration of a 'family' of languages, and on the whole the most instructive attainable example of dialectic growth, is to be found in the modern 'Romance' or 'Romanic' languages, so-called as being all descended from the 'Lingua Romana,' spoken in the different provinces of the Roman Empire. In these we have not only a body of highly cultivated languages, each with its subsidiary dialects, and evidently sprung from a common stock ; but we have also, what we have not in the case of the great Indo-European family, the mother language, the 'Ur-sprache,' from which they have all sprung ; and we can trace historically, with tolerable accuracy, the processes of change and divarication which have produced them. They all rose about the same period of the Middle Ages, out of the condition of local *patois*, the result of illiterate provincial corruptions of the Latin of ordinary popular pronunciation, which even in classical times had differed in many respects from the literary dialect of Rome, and had degenerated still farther and faster when the decline of literature took away the only check upon arbitrary pronunciation and erroneous grammar. In the provinces upon which the Roman conquerors imposed the use of the Roman language¹, that language was subject in its use to all the innovations produced by ignorance, caprice, or the purely physical causes which dispose the vocal organs of different nations to different sounds. When therefore the various nationalities of modern Europe began to take shape and cohesion out of the chaos of the Middle Ages, the dialects of the Latin speaking peoples, in what had been Roman provinces, had sufficiently diverged from each other to form the starting-point of so many distinct languages, each

¹ In Britain, though a Roman province for 400 years, the Roman civilisation was too partial (being confined to the towns) to leave its impress in the use of the Roman language, which in Gaul and Spain survived the conquest of those countries by Teutonic invaders. 'What strikes us at once in the new England,' says Mr. Green, 'is that it was the one purely German nation that rose upon the wreck of Rome. In other lands, in Spain, or Gaul, or Italy, though they were equally conquered by German peoples, religion, social life, administrative order, still remained Roman. In Britain alone Rome died into a vague tradition of the past.' ('History of the English People,' ch. i. sect. ii.)

with its own national peculiarities, but with strongly marked traces of their common origin—in vocabulary, in inflection, and in grammatical structure—running through them all. The following brief summary given by Professor Whitney ('Life and Growth of Language,' pp. 183, 4), enumerates the Romanic group with sufficient precision:—'Fragments of French are the oldest, coming from the tenth century; its literature begins one or two centuries later; the earliest Italian, Spanish, Portuguese, are from the twelfth, or hardly earlier. These four are the conspicuous modern members of the group. But there was also, in the eleventh to the fourteenth centuries, a rich literature of the chief dialect of Southern France, the Provençal, which, except for a recent sporadic effort or two, has ever since been unused as a cultivated tongue. There exists, too, in the northern provinces of Turkey, in Wallachia and Moldavia, a broad region of less cultivated Romanic speech, witnessing to the spread of Roman supremacy eastward: it is destitute of a proper literature. Moreover certain dialects of southern (S. and S.E.) Switzerland, are enough unlike Italian to be ordinarily ranked as an independent tongue, under the name of Rhaeto-Romanic or Rumansh.' This last is the dialect spoken in the Grisons, and met with by English travellers in the Engadin.

Full materials for the philological study of the Romanic languages are available in the 'Grammatik der Romanischen Sprachen' of Professor Diez¹, than which (says Professor Max Müller), 'nothing can be a better preparation for the study of the comparative grammar of the ancient Aryan languages.' Subjoined is a table (compiled from this work) of comparative forms in the six languages examined by Diez (viz. those above-mentioned with the exception of Rumansch); these languages being placed in the order of (upon the whole) nearest resemblance to the Latin original. The evidence of relationship needs no further comment; and it must be borne in mind that the relationship to each other of the various branches of

¹ A French translation of Diez' Grammar is better arranged than the original, and contains additional matter supplied by Prof. Diez himself and incorporated by the translators.

the Indo-European family is precisely analogous to that of these Romanic languages to each other ; and that the evidence for it in the two cases is different not in kind, but only in degree, in proportion as the divarication of dialects has in the one case been wider and longer, and historical observation of their phenomena less attainable.

The transmutation of Latin into its derivative languages, illustrated by the table on pp. 22, 23, exhibits certain features of change from 'analytic' to 'synthetic' languages, the germ of which can be traced even in classical Latin. We shall have occasion, in treating of changes and modifications of sounds (chap. iv), to notice the course of changes in the form of words, which are constantly at work in every spoken language, and the laws of phonetic change following the universally observed tendency to secure ease in articulation at the expense often of clearness. The formative suffixes of nouns and verbs—*Inflections*—were the parts which were first affected. Originally distinct elements with a meaning of their own, and a clear etymological connection with important elements of the language, especially the pronouns, they have become in the language of Cicero and Vergil so far worn away as to appear in many cases mere unmeaning terminations in the written language, and in all probability still less recognisable in popular pronunciation of every day life. This rubbing away of the distinctive suffixes by which grammatical relations were expressed, naturally led to difficulties in retaining the right discrimination, e. g. of case and tense, and to substitution of other expedients for expressing such distinctions.

(i.) *Case inflections gave way to prepositions.* This process is gradually at work in all languages, from the earliest stage, which is the richest in inflections. As the *analytical* tendency of language (getting rid of inflections and substituting separate words for each part of a conception) advances, prepositions are more and more developed to give precision to the obliterated forms and extended meanings of case endings. In Greek and Latin (as the form of many of them indicates) they were originally *adverbs*, serving to define more clearly the meaning which

TABLE OF CORRESPONDENCE BETWEEN

Words and Forms Compared.		Latin Original.	I. Italian.	II. Spanish.
Article.	Nom. S. Gen. S. Nom. Pl.	ille, -a (used in late provincial Lat.as Article)	il ¹ , lo (masc.), la (fem.) del, dello, della i, gli, le	el, la, lo (neut.) del, de la, de lo los, las
Declension.	Nom. S. Nom. Pl.	{ corona, -æ annu-s, -i flos, flores }	coron-a, anno, fior-e coron-e, anni, fior-i	coron-a, añ-o, fior coron-as, añ-os, fior-es
Numerals.	1 2 3 1000	unus, -a duo tres mille	uno, una due tre mille, pl. mila	uno, una dos, duas tres mil
Personal Pronouns.	Nom. S. Nom. Pl. Gen. Pl.	ego, tu, ille nos, vos, illi { nostrum illorum }	io; tu; egli, ella noi; voi; egliuo, elleno de noi, voi; loro	yó; tu; el, ella, ello nos; vos; ellos, ellas de — — —
Verbs.	Pres. Indic. { Sing. 1 " 2 " 3 Pl. 1 " 2 " 3 Imperfect Prete- { 18. rite { 28. Plup. Subj. Gerund Infinitive	canto canta-s canta-t canta-mus canta-tis canta-nt canta-bam canta-vi cantasti cantassem cantando cantare	cant-o, vend-o cant-i, vend-i cant-a, vend-e cant-iamo, vend-iamo cant-ate, vend-ete cánt-ano, vénd-ono cantáva, vendéva cantai, vendéi cantasti, vendesti cantassi, vendessi cantando, vendendo cantare, véndere	canto, vendo canta-s, vend-es canta, vend-e cantamos, vend-emos cantais, vendeis cantan, venden cantaba, vendia canté, vendi cant-aste, vendiste cant-ase, vendiese cantando, vendiendo cant-ar, vender
Auxiliary Verbs.	used in active voice used in passive voice	{ habeo habemus sum sumus	ho cantato abbiamo cantato sono stato siamo state	he cantado hemos cantado soy cantado somos cantados

¹ il, lo are the two syllables of *ille*.

THE 'ROMANIC' LANGUAGES DESCENDED FROM LATIN.

III. Portuguese.	IV. Provençal.	V. French.	VI. Wallachian.
o (masc.), a (fem.) do, da os, as	lo, la del, de la li, las	le, la (Old F. li) du, de la („ del) les, les	-l, -le (suffixed) a ⁴ — lui „ i
coro-a, anno, flor coro-as, anno-s, flore-s	coron-a, ans, flor-s coron-as, an, flor	couronne, an, fleur couronne-s, an-s, fleur-s	coron-e, an, floare corone, an-i, flor-i
hum, huma dous, duas mil	uns, una dai, duas trei, tres mil, pl. mila	un, une (Old F. uns) deux („ dous) trois („ treis) mille („ mil)	un, una (o) doi (doo, doao) trei mie, pl. mii
eu; tu; elle, ella nos; vos; elles, ellas de — —; delles, dellas	ieu; tu; elh, elha nos; vos; elhs, elhas de — —; de lor	je; tu; il, elle nous; vous; ils, elles de — —; d'eux, d'elles	eu; tu; el, ia noi; voi; ei, ia-le al nostru, vostru; alor
canto, vendo cantas, vendes canta, vende cantamos, vendemos cantais, vendeis cantão, vendia cant-ava, vendia cant-ei, vendi cant-aste, vendeste cantasse, vendesse cant-ando, vend-endo cant-ar, vend-er	chant-i, vend-i chant-as, vend-es chant-a, vend chant-ám, vend-ém chant-atz, vend-etz chant-an, vend-on chantava, vendia chantei, vendei chant-est, vend-est chant-es ² , vend-es chant-an, vend-en chant-ar, vend-re	chante, vend-s chant-es, vend-s chant-e, vend chant-ons, vend-ons chant-ez, vend-ez chant-ent, vend-ent chantais, vend-ais chant-ai, vend-is chant-as, vend-is chant-asse, vend-isse chant-ant ³ , vend-ant chant-er, vend-re	cunt, vind cunt-zi, vinz-i cunt-é, vind-e cunt-ém, vind-em cunt-atzi, vind-etzi cunt-é, vind cunt-ám, vind-eam cunt-ai, vind-ui cunt-asi, vind-usi cunt-ásem, vind-úsem cunt-ynd, vind-ynd cunt-à, vind-e
tenho ¹ cantado temos cantado so cantado somos cantados	ai chantat sui chantatz sem chantat	ai chanté avons chanté suis chanté sommes chantés	am cuntat am cunt

¹ i. e. *teneo*. Spanish also uses the corresponding *tengo* as an auxiliary.² A fuller form is retained in 2 sing. *chantesses*, and in plur.³ In phrases like *en voyant*.⁴ The preposition before, the article after the noun.

belongs to the case ending by itself: and as the requirements of language become more complicated, they become more and more necessary to distinctness and accuracy in language. Hence they are often used in prose where they would be omitted in poetry¹; and it is always the case which determines the meaning of the preposition, not *vice versa*.

In modern Greek, and in the derivatives of Latin, prepositions have almost superseded cases; and the growing tendency to use them appears in the New Testament, where they are far more numerous than in classical Greek²; and in e.g. the practice of the Emperor Augustus³, who made use of them in order to speak as clearly as possible. We are told that he preferred to say 'impendere *in aliquam rem*,' 'includere *in carmine*' (instead of 'alicui rei,' 'carmine'). The tendency is found often enough in earlier times, e.g. '*ad carnificem dare*' (Ter.), '*Fulgorem reverentur ab auro*' (Verg.).

(ii.) From the difficulty of retaining distinctions of tense comes the use of active *auxiliary verbs*. In the passive voice *sum* was always so employed; and traces of a similar use e.g. of *dare* are found in phrases like *inventum dabo*, Ter. And. iv. 1. 59, *vasta dabo* = *vastabo*, Verg. Aen. i. 63; ix. 323. *Habere* and *tenere* (*avoir, avere*; Spanish *tengo, tenere*) must have been so used in later dialectical pronunciation; we have perhaps an anticipation of this in the classical *expertum, cognitum habeo*. The passive auxiliary construction with *sum*, etc. is obtained by an easy resolution of any tense in that voice: but the propriety of the active *habeo* or *teneo* is not so obvious. It may, however, have been extended by analogy from cases in which such analysis was correct to others in which it could not be so employed with strict accuracy.

¹ e.g. *ab, ad*, with ablat. or accus. of motion; or *ab* with 'ablativus agentis.'

² e.g. ἐσθίουσιν ἀπὸ τῶν ψυχίων, 'eat of the crumbs,' where classical Greek would employ the 'partitive genitive' alone. See Farrar's Greek Syntax, pp. 86, 87.

³ 'Praecipuam curam duxit sensum animi quam apertissime exprimere; quod quo facilius exprimeret, aut nec ubi lectorem vel auditorem turbaret et moraretur, nec prepositiones verbis addere, neque conjunctiones iterare

(iii.) Next to these changes, founded on pronunciation and on the substitution of prepositions and auxiliary verbs for noun and verb inflections, the usage of the definite and indefinite article seems the most considerable step in the transmutation of Latin into its derivative languages. The development of the definite article from a demonstrative pronoun, which is seen in the Romanic forms *il*, *lo*, etc., derived from Latin *ille*, took place in Greek at an early period, but within historical observation¹; for we see it beginning in the Homeric poems in the use, beside the demonstrative *ὁς*, of a parallel form *ὁ* also demonstrative, but in certain collocations suggesting the later use as definite article, e. g. *ἦ δ' ἄρ' ἀμείβετο Πάλλας Ἀθήνη*, etc. The Greek language thus gained an important element of precision, and facility for the combination and grammatical handling of abstract ideas, e. g. by the article with infinitive or neuter adjective; and though little or no attempt seems to have been made in the literary dialect of Rome to create a corresponding means of precision by an analogous employment of the Latin demonstrative pronoun, there are not wanting signs that the necessity for it was felt and partly acted upon in popular language, by the employment of *ille* and *unus* with the force of a definite and indefinite article respectively². Were this not the case, the evidence of the Romanic languages would be sufficient proof that, at all events in the provincial idioms of the later Empire, this usage had become more or less established. The same development of definite article from demonstrative seems to have taken place in the Teutonic languages; for in German *der* (like *ὁς*, *ὁ*) is

dubitavit, quae detractae afferunt aliquid obscuritatis etai gratiam augent.'
Suetonius, 'Vita Octaviani,' lxxxvi.

N.B. The last words of this quotation recognise the fact that analytic languages gain in accuracy what they lose in conciseness.

¹ On the history and usages of the Greek article see Curtius' Greek Grammar, §§ 365-391; Clyde's Greek Syntax, §§ 3-9. The latter book is a very valuable aid to the student of Greek grammar.

² The theory of grammarians in this matter seems to have gone contrary to the practice of those who spoke and used the language. Quintilian (I. O. i. 4. 19) says, 'Noster sermo articulos non desiderat;' and Scaliger called the article 'otiosum loquacissimae gentis instrumentum,' 'articulus nobis est nullus et Graecis superfluous.'

demonstrative, relative, and definite article ; and in English *that* and *which* are often interchangeable.

For further suggestions upon the relation of the Romanic languages to Latin, the reader may consult Max Müller's Lectures, Series I. Lecture v. and Hallam's Middle Ages, chap. IX. part I.

CHAPTER III.

CLASSIFICATION OF SOUNDS.

THE division of sounds and of the letters representing them in the alphabets of different languages, according to the organs of the human voice by which the sounds are produced, is the basis upon which enquiries into the mutual connection of languages, and all etymology, must ultimately rest. In tracing the original form or the common element of words or their inflections in one or more languages, we are retracing the course of 'phonetic change;' the changes i.e. in the sounds and the letters representing them, by which, while languages are in daily use as media of oral communication, variety or degeneration from simple and primitive forms have been produced. The principle of this phonetic change is the endeavour, conscious or unconscious, to secure *ease of articulation*. 'All articulate sounds are produced by effort, by expenditure of muscular energy in the throat, lungs, and mouth. This effort, like every other that man makes, he has an instinctive disposition to seek relief from, to avoid: we may call it laziness, or we may call it economy: it is in fact either the one or the other, according to the circumstances of each particular case. It is laziness when it gives up more than it gains; it is economy when it gains more than it abandons.'

Ease of articulation is secured in the majority of cases by substituting a sound easier to pronounce for one which is found difficult—a *weaker* for a *stronger* sound: and (with some few

exceptions) it is a safe rule in etymology that harder sounds are not derived from easier, nor a word which has retained a strong sound from one which exhibits a correspondingly weak sound; nor, therefore, a language in which individual forms retain strong sounds from a language whose corresponding forms retain weaker sounds. Thus (to take a simple instance) such forms as *silva*, *sus*, *video*, *vinum* beside ὤλη, ἔς, ἰδεῖν, οἶνος, go far to prove what has already been demonstrated upon the evidence of inflections (above, p. 16), that Latin cannot have been derived from Greek, having retained in these words the sounds *s* and *v* (*F*), which Greek has lost, or represents only by an aspirate.

But what are *hard* or *strong*, and *easy* or *weak* sounds? and how is the relative strength of sounds determined? Obviously by the physical conditions of their utterance. *Hard* sounds are those which require greater physical effort on the part of the organs of speech, *easier* sounds those which require less effort. The table given on p. 29 exhibits the sounds arranged according to the physical conditions of their production: and without a minute investigation of those physical conditions (for which the student is referred to Max Müller's Lectures, Series II. Lect. iii. on 'The Physiological Alphabet'), a brief statement of them is necessary for the explanation of the terms employed.

Physical
conditions of
the human
voice.

The voice, then, is a continuous stream of air from the lungs, changed as it leaves the '*larynx*' (i.e. the upper end of the *trachea* or windpipe) into vocal sound by the vibration of two ligaments called *chordae vocales*, and modified by the different positions, or interrupted and compressed by various actions of the uvula, tongue, palate, teeth, and lips, which thus become organs of voice¹.

¹ For a fuller description of the instruments of the human voice, see Max Müller's Lectures, Series II. Lect. iii. (pp. 109-114, 2nd ed.), and Farrar's 'Chapters on Language,' ch. vii. pp. 84, 85: 'When we are speaking we are in reality playing on a musical instrument, and a more perfect instrument than ever was invented by man.' 'The larynx, with its cartilages and muscles, forms, in point of fact, a combination of musical instruments; it is at once a trumpet, an organ, a hautboy, a flageolet, and an Aeolian harp. The air passing upwards and downwards through the larynx and trachea forms its analogy with the wind-instruments; the

Modification of the stream of vocal sound, without interruption or compression by these organs of voice, produces *Vowels* (*vocales*, *φωνήερα*), so called because they have a sound of their own, being various modifications of the vocal sound produced by the 'chordae vocales.'

Interruption by complete contact, or compression by approximation of the organs of voice, produces *Consonants* (*con-sonantes*, *σύμφωνα*), so called because they have no sound of their own, but must be accompanied with a vowel sound¹. Thus, in the Sanskrit character the vowel *a* is never written after a consonant, because *a*, the primitive vowel sound, is supposed to be inherent in every consonant.

The subjoined table illustrates the classification of Sounds as applicable to Greek and Latin :—

(The Greek and Latin characters are given).

TABLE IN ILLUSTRATION OF THE CLASSIFICATION
OF SOUNDS.

	MUTES 'Explosive' Sounds.		Aspirate Tenuis.	Nasals.	SEMIVOWELS: 'Fricative' Sounds.			VOWELS.	
	Tenuis.	Media.			Spirants.		Liquids.	Pri- mary.	Secondary
					Tenuis.	Media.			
Guttural	κ c k q	γ g	Χ		ε h	ς		α a	} ε η e ο ω o
Palatal						i (j)		ι i	
Dental	τ t	δ d	θ	ν n	σ s	ζ z	λ ρ l r		
Labial	π p	β b	φ	μ m	φ f	ψ v		υ u	

vibration of the *chordae vocales*, its resemblance to the stringed.' See also Dr. Carpenter's 'Animal Physiology,' p. 528; and Whitney, 'Life and Growth of Language,' ch. iv. p. 59.

¹ The Arabic grammarians call a vowel *motion*, and a consonant a *barrier*, because in forming vowels the voice is not interrupted, whereas in forming consonants it is stopped at certain fixed positions.

(*f* and *v* are sometimes classed separately as 'Labio-dentals, being formed by contact of under lip and upper teeth).

N.B. In Latin, *c*, *g*, represent the hard sound of *κ*, *γ*: *i* (*j*), semivowel, the sound of English *y* in *you*: *v* (and Greek *φ*) that of English *w*.

The vowels in Greek and Latin are pronounced nearly as in Italian. (Cp. the table of the Greek and Roman alphabets, p. 40.)

[Sanskrit, besides the sounds expressed in Greek and Latin, has letters expressing—

'Palatal' mutes, ten. and med. [*k' g'*]; spirant [*ś*]; nasal [*ñ*]

'Cerebral' „ „ „ [*t̪*]; „ [*ṣ*]; „ [*ṇ*]

(These sounds are varieties of guttural and dental respectively).

A complete set of aspirated mutes, tenuous, and mediae; e.g. *kh*, *gh*; *k'h*, *g'h*; etc.

Short and long sounds of all the vowels, + the dental vowel sounds *r* *l* (*ri*, *li*).

Consonants are classified¹ (see the Table, p. 29)—

Classification of Consonants —
I. Mutes and Semi-vowels.

I. By the completeness or incompleteness of contact of the 'vocal organs.'

a. *Mutes* (ἄφωνα, *mutae*), where there is a complete interruption of the passage of the breath (i. e. the vocal sound). These are 'Consonants' proper, having no sound of their own, and depending for articulation upon the vowel sound which follows when the stream of vocal sound is released from the 'check' or interruption. They are sometimes called 'Momentary' or 'Explosive' sounds [*k g*, *t d*, *p b*].

b. *Semivowels*² (ἡμίφωνα, *semi-vocales*), where the stream of vocal sound is not interrupted by complete contact, but only compressed by approximation of the 'vocal organs,' so that a continuous sound is heard from the friction of the breath or

¹ The teacher will find the comprehension and recollection of these classifications and the terms employed much facilitated by oral illustration, pronouncing himself, and asking his pupils to pronounce, each sound as it is mentioned.

² For the more limited use of this term, see below, p. 34, note 1.

vocal sound against the partially closed organs. They are sometimes called 'Protracted' or 'Fricative' sounds [*s, z, l, r, f, v*, etc.].

II. By the accompaniment or absence of vocal sound.

II. Tenuis
and Mediae.

a. *Tenuis*¹ (*ψιλλὰ*, 'voiceless' also called, 'sharp,' 'hard,' 'surd'), when the contact or approximation takes place with the *vocal chords* (see above, p. 28) wide apart, so that only a whisper takes place [*k, t, p, s, f*].

b. *Mediae*² (*μεσὰ*, 'voiced,' also called 'flat,' 'soft,' 'sonant'), when the contact or approximation takes place with the *vocal chords* close together, so that they vibrate and cause sound³, either during approximation or (in the case of mutes) directly the contact is released [*g, d, b, z, v*, etc.].

III. By the part of the mouth at which, and the 'vocal organs' between which the contact or approximation takes place.

III. Guttural,
etc.

a. *Guttural*, by the back or soft palate (uvula) and root of the tongue [*k, g*].

b. *Palatal*⁴, by the middle or hard palate and the tongue

¹ *κ, τ, π*, were called *ψιλλὰ γράμματα* ('bald,' slight, or thin letters) by the Greek grammarians in distinction from the *aspirates* *χ, θ, φ*, which had a rough or shaggy sound. Hence *ψιλλῶς γράφειν* = to write with a tenuis instead of an aspirate (*βάπυς* for *ράφης*), Ath. 369 B; and *ἐ ψιλλόν* = E without the aspirate, a name given to *ε* by Greek grammarians when in 403 B.C. the Athenians adopted the symbol H, η, from the Samian alphabet, for *ε*, H having previously been one way of writing the aspirate. The origin of the term *ἐ ψιλλόν* is less certain; but it has been supposed that *τ*, like Lat. V, originally represented both the vowel *u* and the *v* or digamma *f*, and that to distinguish the two the vowel received the name of *ἐ ψιλλόν* = 'mere u.'

² The *mediae* (*μεσὰ*) *γ, δ, β* were so called because they were pronounced by the Greek grammarians with more aspiration than the *tenuis* and with less than the *aspirates*.

³ On the general causes of the distinction between *tenuis* and *mediae*, see Prof. Helmholtz, as quoted by Max Müller, Lectures, II. iii. p. 131, 2nd ed. Prof. Whitney would insist upon the use of the terms 'surd,' 'sonant'; see 'Life and Growth of Language,' p. 63.

⁴ The various consonantal sounds which in Sanskrit and other languages are called *palatal* are formed by placing the tongue in a position intermediate between the guttural and dental contact, and are modifications, sometimes of gutturals, sometimes of dentals. In Sanskrit they approach nearer the former, and are often represented, the tenuis by English *ch* (in *church*, or Italian *cielo*), the media by *j* (i.e. as in our pronunciation of *German, George*). Sanskrit scholars, however, not unfrequently prefer to

(i.e. the guttural 'check' or contact pushed a little further forward).

c. *Dental*, by the upper teeth and front part of tongue [*t*, *d*].

d. *Labial*, by the lips [*p*, *b*], or under lip and upper teeth [*f*, *v*]. The latter are sometimes classed separately as *Labio-dental*.

Somewhat outside of I. and III, come *Nasals* and *Liquids*.

Nasals.

Nasals are a variety of Explosive Mediae: i.e. when the organs are in position for pronouncing *g*, *d*, *b*, but the stream of breath passes into the nose, *ng*, *n*, *m*, are respectively produced. Accordingly, if we try to pronounce *n* or *m* either holding the nose, or when it is stopped by a cold so that the air cannot pass that way, the result is the original sound of *d* or *b*, e.g. *moon* becomes *bood*¹.

Liquids.

Liquids ('lingual' sounds or 'trills'), are caused by the breath passing over the sides of the back of the tongue [*l*], and over the tip of the tongue [*r*]. They may be classed with Semivowel [Fricative] sounds, to which they have most affinity.

Aspirates.¹

Aspirates are variously classed with 'explosive' and 'fricative' sounds. The sound denoted by *h* (*spiritus asper*²), is a mere expulsion of breath, unchecked by the vocal chords, which remain wide apart without vibrating so as to produce vocal sound. This 'breathing' (to adopt the term familiar in Greek grammar), when it follows an explosive consonant, gives such sounds as Greek *χ* (*k* + *h*), *θ* (*t* + *h*), *φ* (*p* + *h*). In pronouncing the tenues *k*, *t*, *p*, the vocal chords are apart and in a natural position for aspiration: but with the mediae *g*, *d*, *b*, they are

denote the palatal series by the guttural signs *k*, *kh*, *g*, *gh*, modified either by ' (*k'*, *kh'*) or by difference of type, because this helps them to show the easy transition between e.g. nom. वाक् (*vāk*) and वाक् (*vāk'*) the stem of the oblique cases.

¹ The following stanza from a *jeu d'esprit*, entitled 'The Lay of the Influenzed,' may serve as an illustration of this:—

'Dever bore bedeath the bood
Shall byrtle boughs edtwide;
Dever bore thy bellow voice
Bake belody with bide.'

² The distinction between *spiritus asper* and *lenis* is the same as that denoted in consonants by the terms *tenuis* and *media*, the glottis being in one case open, in the other closed.

close together, and not in position for aspiration. Hence *gh* (*g + h*), *dh* (*d + h*), *bh* (*b + h*), are more difficult sounds, which perhaps existed in the earliest forms of Indo-European speech, but have only found expression in the Sanskrit and (to a certain extent) in the Keltic languages.

The slight sound or 'breathing' heard before any vowel, and best caught when two vowels come together (e.g. *go over*), is rarely expressed by any sign, except in Greek by the *spiritus lenis* or 'soft breathing.'

If the breath emitted for *spiritus asper* or *lenis* be modified by certain narrowings of the mouth forming barriers which hem it in, various distinct sounds are produced. Eight such 'barriers,' with corresponding modifications of the *spiritus asper* and *lenis*, are enumerated by Professor Max Müller; of which only those for which signs are given in our table of sounds are here given, viz.

1. The barrier produced by advancing the tongue towards the teeth, modifies *spiritus asper* into *s*, *spiritus lenis* into *z*.

2. If the lower lip be brought against the upper teeth, the barrier produced modifies *spiritus asper* into *f*, *spiritus lenis* into *v*, as heard in English *live*, *halve*. Hence *f, v* are sometimes called 'Labio-dental' sounds.

3. If the lips be slightly contracted and rounded, *spiritus asper* becomes *w* in *wheel*, *which*; *spiritus lenis* the English *w*, which is apparently represented by Greek *F* and Latin *v*.

These sounds, *s, z, f, v*, etc., are called *spirants*. This name and *Spirants*. the physical fact which it denotes (that the sounds so-called are modifications of the 'breathings'), will at once suggest the explanation of such phonetic varieties as *sedes*, *ēdos*; *sus*, *ūs*; *sub*, *ύπό*; or the correspondence of Latin *f* to various aspirate sounds in Greek, e.g. to *φ*, *χ* (*χολή*, *fel*); to *θ* (*θηλυς*, *femina*, *θηρ*, *fera*); and to *φ*, originally *F*, in *ρυγέω*, *frigus*.

VOWELS AND DIPHTHONGS.

1. The three primitive vowel-sounds are *A, I, U* (pronounced Vowels: *A*, as in Italian). Of these *a* is formed nearest to the guttural^{I, U.}

point of contact (with the lips opened wide); *i* nearest to the *palatal*; *u* nearest the *labial* contact, the lips approaching each other.

i and *u* pass into the cognate consonantal (or semivowel¹) sounds of *y* and *v* (*w*).

a can pass into no other sound : it is the vowel *par excellence*, occurring in Sanskrit², and probably in the earliest form of Indo-European language, much oftener than *i* or *u*.

H. O.

2. *E* and *O* are phonetic variations of the *A* sound. If we compare kindred words in Sanskrit, Greek, and Latin, we find that Sanskrit *a* is represented by *a*, *ε*, *ο*, in Greek, by *α*, *ε*, *ο*³ in Latin, e. g. Sanskrit *navas*, Greek *νέ(φ)ος*, Lat. *novus* (= *novos*); *pataṛ*, *πάτερ* (= *πάτερ-ς*), *pater*; *bharami*, *φέρω* (= *φέρο-μι*), *fero*. In some cases the variety secured by this weakening of *a* has been turned to account, to indicate differences of meaning; thus Sanskrit *padas*, which is gen. sing., nom. and acc. plur. of *pad*, a foot, becomes in Greek *πόδος*, *πόδες*, *πόδας*; the Greek thus gaining in distinctness what it loses in strength of sound.

3. When two vowels follow one another so rapidly as to melt into one sound we get a *diphthong*. Of the primary vowels *a* alone can thus form the basis of a diphthong; for *i* and *u*, if a vowel sound follows, pass into the 'semivowel' sounds of *y* and *w*. *e* and *ο*, being varieties of *a*, can also serve as 'diphthongal

¹ 'Semi-vowel' is here used in the limited sense, which often attaches to it, of the consonantal sounds of *i*, *u*. The reader will take note that it has been applied above (p. 30) in a wider sense to the whole class of 'Fricative' consonants, as distinguished from Mutes or Consonants proper. To avoid confusion it would be better either to describe the *y* and *w* sounds as *i* and *u* consonantal, or to give up the wider application of the term to Fricative consonants, but the inconsistency of usage is too confined.

² In Sanskrit *ā* following a consonant is never written, because it is supposed to be inherent in every consonant (e. g. *pataṛ* is written *ptr*); and the Sanskrit alphabet, which has two separate characters for each vowel sound according as it is initial or in the middle of a word, has no character for *ā* medial.

³ The vowels are originally *short* in quantity (as e. g. in most roots), lengthening being generally the result of 'vowel intensification,' as in *dūco* (root *dūc-*), or contraction, as *amās* = *ama-is*. Vowels which are *naturally* long must be distinguished from vowels which are *naturally* short, but long by position, e. g. *ārma* (*ā*), *nōx* (*ō*). In speaking of vowel sounds generally we mean (unless otherwise specified) *ā*, *ē*, *ī*, *ō*, *ū*.

bases.' We thus get as diphthongal sounds, in Greek *ai, au, ei, ev, oi, ov*; in Latin *ai, au, ei, eu, oi, ou*: though, for reasons which will appear afterwards, the Latin diphthongs, with the partial exception of *au* and *eu* in a few words, became weakened to the simple sounds α ($\bar{\epsilon}$), \bar{o} , \bar{i} , \bar{u} , α (\bar{e}), \bar{u} , and we must go back to the archaic remains of the language for such forms as *aidilis, deicere, foidus, joudex*.

4. Another vowel-sound is sometimes added, viz. the inde-^{'Original vowel.'}finite or neutral sound ('original vowel,' 'Ur-laut,' 'Ur-vocal'), variously defined as 'the natural vowel of the reed,' 'the voice in its least modified form,' etc. This is the sound heard in such words as *but, dust*; and it has been said that in such words as e. g. *spurt, assert, bird, virtue, dove, oven, double, blood*, but one and the same indefinite vowel-sound is heard. However this may be, there is no doubt an indefinite sound to which *unaccented* vowels in most modern European languages have a tendency to return, e. g. in the last syllable of *beggar, nation, Paddington* (= town), German *lieben*; or the first syllable of French *tenir*. Physically, it appears to result from leaving the tongue in its most natural position, opening the mouth easily and emitting vocal breath; and it approaches the sound of all the vowels. It is this indistinct vowel, combined with *r* and *l*, that produces the Sanskrit vowel sounds *ri* and *lri* (*r, l*).

It should be borne in mind that *sounds* are distinct from the ^{Relation of} signs used to represent them, i. e. the *letters*. The number of ^{sounds to} letters. - possible articulate sounds is greater than any nation ever employs; and the 'alphabet' of some languages will express sounds which that of others does not. Again, the use of letters in time reacts upon sounds. They do not always fit each other exactly to start with; and while pronunciation is always changing, spelling in a literary language becomes more or less fixed. Thus in time letters become symbols of other sounds than those proper to or originally denoted by them, and carry their new sounds into other words or other languages. For example, in the Roman alphabet, which is common to most nations of *modern Europe*, *c, g*, representing to a Roman of the

classical period the hard sound of *k* or Greek γ^1 before *all* vowels, in the pronunciation of the later Empire, and in the languages of modern Europe, came to signify different sounds before the vowels *i, e*; and these new sounds are carried back by each nation into their pronunciation of classical Latin, leading to such anomalies as the identical pronunciation of *secus* and *coecus*, or the different pronunciations of *locus, loci, loco*, parts of the same word. Again, *j* and *v*, the modern representatives of consonantal *i* and *u*, have acquired, and carry back with them into the modern pronunciation of consonantal *i* and *u* in Latin words, quite different sounds from those of our *y* and *w*, which are in reality much nearer representatives of the sounds in question. Whatever, therefore may be the practical value to modern nations, in reading or pronouncing a dead language, of attempts to reproduce the ancient pronunciation, it is of the utmost importance, for philological and etymological enquiry, to realise as accurately as we can *what sounds*, in the mouths of those who spoke the Greek and Latin languages, are represented by their written character; and this not only for the philology of those languages, but for that of all the modern languages which, as we have seen, are connected with them.

Sanskrit
alphabet.

The only people who have ever attempted to express in their written character almost every known gradation of sound, are the Hindoos, those who employed the Sanskrit language. The Sanskrit alphabet has fourteen vowels, each (except *ā*) with two symbols, one initial, the other medial; thirty-three simple consonants; and upwards of 400 or 500 compound consonants, of which about 140 are given (in Professor Monier Williams' 'Sanskrit Grammar') as 'the more common' of such consonants. Sanskrit, in fact, in its whole structure, is an elaborate process of combining letters according to fixed rules. 'Its entire grammatical system, the regular formation of its nouns and verbs from simple roots, its theory of declension and conjugation, and the arrangement of its sentences, all turn on the reciprocal

¹ The evidence for this statement as to the pronunciation of *c, g* will be found summarised in Roby's 'Latin Grammar,' vol. i. Preface, pp. xliii–lii, or Wordsworth's 'Fragments and Specimens,' Introd. ch. iii. §§ 22–28.

relationship and interchangeableness of letters, and the laws which regulate their internal combination¹. These laws, too, are the key to the influence which Sanskrit has exercised upon the study of Comparative Philology. That influence is due, not to its being (as is sometimes said) an *older* language—though approaching on the whole nearer to the primitive type whose existence we infer from a comparison of the various branches of the Indo-European family—but to the fact that its elaborate system of phonetic combination of sounds supplies illustrations for the different phonetic rules which determine the variation, in different languages, of the elements common to all. Owing to the transparency of its construction, the nicety of its laws and its great antiquity in many respects, and especially that of its vowel system, Sanskrit was soon found to be more adapted than any other language to open men's eyes to the nature of the connection of all the sister languages : and in the first rejoicings of the students of language over its discovery, its importance was for a time overrated. 'The preposterous idea that Sanskrit must have preserved in every case the oldest form' is now however generally discarded ; and those philologists whose labours rest upon the most thorough knowledge of Sanskrit, are the first to allow that even in its sounds there are weaknesses and corruptions peculiar to it which prevent it from serving in all cases as the starting-point for comparison, and even send us to other languages to recover the primitive form. Thus (to quote the remark of Curtius²), 'now that this language has for a long time served exclusively to throw light on others, the light begins to shine back from the other languages upon Sanskrit.' With this limitation, however, the pre-eminence of Sanskrit as the central point in the study of Comparative Philology may remain accepted ; for (to quote again from Professor Curtius), 'the exuberance of the old Indian literature ; the antiquity of its most revered monument the *Rig-veda* ; the perfection of its alphabet ; the remarkable acuteness and diligence of its native

¹ Monier Williams' 'Sanskrit Grammar,' Preface to 2nd ed. p. xv.

² 'Principles of Greek Etymology,' Introd. § 5 (p. 37, English translation).

grammarians, who have prepared the most valuable assistance for the study of Etymology, if only by their discovery of the conception of roots and their careful index of roots ; all these are claims on the part of Sanskrit, which only during the last half-century has become the field of such fresh and important investigations, to retain permanently the prominent position of importance for the study of the whole Indo-Germanic (Indo-European) stock of languages¹.

¹ ' Principles of Greek Etymology,' Introd. § 5 (p. 30, English translation).

APPENDIX TO CHAPTER III.

THE GREEK AND ROMAN ALPHABETS.

A. *Greek Alphabet.* It is universally admitted that the ^{Greek} Greeks learnt the art of writing from the Phoenicians, with ^{Alphabet.} whom, as the chief traders of the Mediterranean, they were brought into contact at an early epoch of their national history. In adopting the Phoenician alphabet they seem to have retained both the forms and the names of its letters, slightly modified, in the order in which they originally stood; the Semitic terms, Aleph, Beth, Gimel, etc., being transformed into names more euphonious to Greek ears, but of course unmeaning except as signs. These names, through the influence of Greek civilisation, have become identified with the practice of writing in all ages and countries; and the word 'Alphabet' (from the first two Greek letters, Alpha, Beta), is a lasting memorial of the obligations of modern literature and science to primitive Oriental ingenuity. The old explanation, that the name of each letter was the name of some familiar object, the first sound of which was the element to be represented, *Aleph* (*A*) being Phoenician for 'ox,' *Beth* (*B*), for 'house' (cp. Beth-el='House of God,' Beth-horon, etc., familiar to us from the Bible), *Gimel* (*G*), for 'camel,' etc., is now discredited; and the Phoenician alphabet is no longer regarded as the *ultimate* source of the world's alphabets, but is itself traced back to an Egyptian source. (See Max Müller, 'Chips from a German Workshop,' vol. iv. p. 486.)

The names of the letters were but little changed either in Greece or the East; but their forms must have undergone considerable alteration, since there is but slight resemblance between the classical Greek characters and the later Phoenician; but it is said that the original community of form may be traced in the older inscriptions of the two languages. The whole Phoenician alphabet of twenty-two letters was adopted by the Greeks with certain variations of power and order, as appears from the subjoined table¹, in which column I gives the Phoenician alphabet,

I. Phoenician Alphabet and Numerals.		II. Full No. of Greek Letters.	III. Classical Greek Alphabet.	IV. Greek Numerals corresponding.	V. Roman Alphabet.		
					Characters.	Names of Letters.	Probable Pronunciation
Aleph	1	Alpha	A	1	A	a	ah
Beth	2	Beta	B	2	B	be	b
Gimel	3	Gamma	Γ	3	C = K	ce	k (c in cat)
Daleth	4	Delta	Δ	4	D	de	d
He	5	E	E	5	E	e	ay (a in whale)
Vau	6	Vau	Ϝ	6 (Vau Ϝ)	F (older I')	ef	f
Zain	7	Zeta	Z	7	G = Γ	ge	g (in give)
Heth	8	Heta	H	8	H = '̣	ha	h (in hat)
Teth	9	Theta	Θ	9			
Jod	10	Iota	I	10	I {vowel consonant}	i {	ee (in feet) y (in yes)
Kaph	20	Kappa	K	20	(K)	ka	k
Lamed	30	Lambda	Λ	30	L (old L)	el	l
Mim	40	Mu	M	40	M	em	m
Nun	50	Nu	N	50	N	en	n
Samech	60	Sigma	Σ	60			
Oin	70	Ο	O	70	O	o	o
Pe	80	Pi	Π	80	P (Γ inser.)	pe	p
Tsade	90						
Koph	100	Koppa	Ϟ	90 (Ϟ)	Q (old Ϟ)	qu	k
Resch	200	Rho	P	100	R (old R)	er	r
Schin	300	Xi	XΣ, Ξ	200	S	es	s
Thau	400	Tau	T	300	T	te	t
		Ϛ	Ϛ	400	V vowel	{ u }	oo (in fool) w, or Fr. ou in
		Phi	Φ	500	V consonant		
		Chi	X	600	X = Ξ	ix	x
		Psi	Ψ	700	(Y) {later introductions to		
		Ω	Ω	800	(Z) {represent qu, z, y.		
			Ω μέγα	900 (Sampi)			

¹ For this Table, and some of the information connected with it as regards the Phoenician and Greek alphabets, I am indebted to Col. Mure's 'History of the Language and Literature of Ancient Greece,' Book I. ch. iv. § 8. The information about the Roman alphabet is compiled from Corssen, Roby, and Wordsworth.

as a representative of sounds, and as a numeral system (this latter usage being also adopted by the Greeks); column II, the whole number of letters ever used by the Greeks (twenty-one Phœnician, in their original order, and five of native Hellenic invention); column III, the classical Greek alphabet; column IV, the Greek alphabet as a numeral system; column V, the Roman alphabet, with the probable pronunciation of its different letters.

The old Phœnician alphabet consisted only of consonants; the pure vowel sounds (like *ā* medial in Sanskrit, p. 34, note 2), being considered as subordinate aids to pronunciation, and included in the power of each consonant. In Greek etymology, however, the vowels were of almost equal importance with the consonants; and required to be as exactly distinguished as these, in a language which depended so much upon poetry and music for its full formation. But for this purpose they had not to invent altogether new characters; for several of the letters of the Phœnician alphabet, though technically classed as consonants, were more properly semivowel in character, and were appropriated by the Greeks to denote the vowel sounds to which they had respectively affinity. These letters were Aleph, He, Jod, Oin, and Vau (see the Table); the first four of which were adopted as the simple vowel sounds *A, E, I, O*, while the Vau, which, on analogy of the others, should have been converted into *U*, retained its original power. Then for the pure *U* another character was invented, called *Υ ψιλόν*, in contradistinction to the Vau (possibly because the same character, as *V* in Latin, served originally for both vowel and consonant sound, see note to p. 31). The Greek Vau, however, is better known under its later name of *διγάμμα*, so-called from its form on inscriptions *F*¹. Its pronunciation was probably that of consonantal *u* (i. e. something like our *w*, see p. 36); but its form identifies it with Latin *F*. Now Latin *F* holds the same place in the alphabet with Phœnician *Vau*, which as a numeral=6; and

Phœnician
Alphabet.

¹ On the Digamma, see Liddell and Scott, s. v. *διγάμμα*: and below, ch. iv, on the changes of the spirant *v*.

Greek
Alphabet.

when we remember that the *Greek* sign for 6 was ζ', it seems probable that this character (afterwards used to denote στ) originally represented the digamma, which must have held the sixth place in the Greek alphabet.

On the term Ε ψιλόν see above, note to p. 31. The Η, from which it is distinguished as ἥ from ἑ, was obviously in its origin a double *E*: but before it was taken to represent the double or long *e*, it seems to have been used to denote the *spiritus asper*. ΗΟΣ occurs on inscriptions=ὄς, and Η stands for ἑκατον: and this usage of course survives in Latin *H*. When Η was taken as a vowel, it was cut in two so that | represented the *spiritus asper*, | the *spiritus lenis*; whence came the signs '' for the breathings.

Ο μικρόν=ὀ, and Ω μέγαν=ω or ὦ, were names given after the introduction of the form Ω in the archonship of Euclides (B.C. 403), to distinguish what had hitherto, as in Latin, been combined in one form Ο. The character ω (i. e. oo), introduced about Hadrian's time, made its form, like its sound, a lengthened ο.

The seventh and eighteenth letters of the Phœnician alphabet, *Zain* and *Tsade*, which appear to have been modifications of the same sound, were merged into Greek Ζ; which took the place of the former, though in pronunciation more like *ts*, being a mixed sound of δς or σδ (*συρίσσω*, Doric for *συρίζω*; Ἀθήνας=Ἀθήνας δε).

The Phœnician *Teth*=*t* sound, and *Thau*=*th*, were retained in their places by the Greeks, but their respective powers were interchanged, and the names slightly altered to correspond; *Teth* becoming *Theta* and representing the aspirated *t*, and *Thau* becoming *Tau* for the unaspirated tenuis.

Sigma (Σ) seems to have had various shapes: its oldest forms being Μ, and then in succession ζ or ς, ξ, ς, (whence came the later form Σ); after this, but still early, ϸ (whence in late authors the orchestra is called τὸ τοῦ θεάτρον σίγμα, and *sigma* = a semicircular couch, Martial x. 48, etc.). The Latin form *S* arises from the attempt to write ζ in a single stroke. In the *classical alphabet* it has interchanged places with Ξ, a character

introduced B.C. 403, for the compound letter XΣ. We also hear ^{Greek Alphabet.} of σάν¹, a Doric form of σίγμα, which probably was a second sibilant related to Phoenician *schim*, as σίγμα to *samech*. It remained as a numeral=900, under the name *σάμπι*, in the form ς.

Koppa, Ϙ, disappeared from the classical Greek alphabet, its sound being so like that of κ, that one sign sufficed for both. It remained however as a numeral=90, and is found in old Doric and Aeolic inscriptions: and it survives in Ϙ, which the Romans adopted from the Dorian alphabet of the Greeks of Cumæ.

X¹ was originally written XΣ (*chs*); the sign Ξ being introduced in the archonship of Eucleides. Hence x became identified with the sound *cs* or *chs*, and was adopted by the Romans as its representative; the place assigned to it in the Roman alphabet being perhaps due to the place of X=*ch* in the Greek alphabet. Roman inscriptions of all times often have *xs* for *x*², which looks as if the idea of *x*, as a mere guttural like Greek χ, still influenced its written value.

The three characters Φ, Χ, Ψ, were later inventions to represent the compound letters originally written ΠΗ, ΚΗ, ΠΣ. Ψ is ascribed to Simonides, and was adopted at Athens in the archonship of Eucleides (403), at the same time with η, ω, and ξ.

B. *Roman Alphabet.* The history of the Roman alphabet will ^{Roman Alphabet.} be found fully treated in such books as Wordsworth's 'Fragments and Specimens of Early Latin' (Introd. chap. II.); and Roby's Latin Grammar, and need only be briefly noticed here³.

¹ Herodotus (i. 139), speaking of the Persian names, says they all end in the same letter, τὸ Δωριεὺς μὲν Σάν καλέουσι, Ἴωνες δὲ Σίγμα. *σαμφόρας* (Ar. Eq. 603, Nub. 122, 1298) is a horse marked with the old letter σάν; cp. *κομματίας ἵππος*, Nub. 23. Col. Mure assumes σάν to have been derived from the Phoenician *Zain*, and places it in col. II. of his table between *Vau* and *Heta*, supposing that the Dorian usage of σάν=σ alluded to by Herodotus was a mere provincial anomaly. Liddell and Scott adopt the view given in the text.

² Mr. Roby quotes as instances *extrad* (S. C. de Bacch., see Appendix I), *taxat*, *lexs*, *proxumus*, *exsigito*, *deixserit*.

³ The most complete account (from which the others referred to are mainly derived) is to be found in pp. 1-29 of Corssen's 'Ueber Aussprache,' etc., vol. i. For illustrations and examples reference must be made to Corssen.

Roman
Alphabet.

It was derived from the Dorian alphabet of the Chalcidian colony of Cumae, as is shown by the form of $S = \varsigma$, and the use of φ (Koppa); and in its oldest form seems to have consisted of twenty-one letters, viz. $A, B, C, D, E, F, Z, H, I, K, L, M, N, O, P, Q, R, S, T, V, X$. The three aspirates *th*, *ph*, *ch* (in the Dorian character \odot, Φ, Ψ), were never used by the Romans, but the characters were retained as numeral signs. Ψ (χ), was written \perp , and abbreviated into $L=50$; \odot , with its circle incomplete, became $C=100$, the initial of *centum*: and Φ became CIO or Φ , and finally $M=1000$. $D=500$ is the half of Φ ; $X=10$ is perhaps from Θ , an ancient form of θ ; and $V=5$, is the half of X .

Z went out of use at a very early period, its occurrence in the 'Carmen Saliare,' and on a single coin, being in fact the only evidence for its having been used at all; but in the time of Cicero it was reintroduced for the transcription of Greek ζ .

K went out of use, probably before the XII Tables, except in a few old abbreviations (Kal.=Calendae, K=Kaeso, etc.), and C was used to denote both the guttural *tenuis* and *media*, until somewhere between 300 and 200 B.C. a modified form, G , was taken to represent the *media*. The earliest inscription upon which G is found is the epitaph of Scipio Barbatus (Appendix I). The old C was retained in C, CN =Gaius, Gnaeus.

In the time of Cicero, Y and Z were introduced for representing v and ζ in Greek words: and the combinations *th*, *ph*, *ch*, were written for the first time (see below, pp. 77, 78).

The Emperor Claudius tried to introduce three new letters, viz. an inverted digamma \beth , for the consonantal sound of v ; a reversed Greek sigma σ , for *bs* or *ps*; and the sign of the Greek *spiritus asper* \vdash (see above, p. 42), for the middle sound between *i* and *u*, i.e. Greek *v*.

Double consonants¹ were not written till the time of Ennius,

¹ The date of the introduction of doubled consonants is of some importance for the scansion of Plautus. Plautus died fifteen years before Ennius; and but few instances of double consonants in his plays can be really genuine. *Supēlectile*, *similumae*, *satēlites*, *sagīta*, etc., are generally correct; and *ille*, *esse*, must often be scanned *īle*, *ēse*. See Wagner, *Introduction to Aulularia*, pp. xli-xliv.

who is said to have introduced the practice in imitation of Greek. The earliest instance upon inscriptions is about 186 B.C. (see Appendix I), from which time to that of the Gracchi (about 120 B.C.) usage fluctuates: after 120 B.C. doubled consonants are general. Another method of denoting stress upon a consonant was by the 'sicilicus' (so-called from its shape, *sica*), e.g. *ser'a*, *as'eres*=*serra*, *asser'es*.

The example of Greek η and ω led Roman *literati* to try various methods for expressing long vowel sound.

(a) Doubling the vowel; said to have been used by the poet Accius, and found on inscriptions of his time between 130 and 75 B.C., always with the vowels *A*, *E*, *V* (*VOOTUM* is found on an earlier inscription). A double *I* was used after Cicero and Caesar to express the semivowel *j* (*Aiiax*, *Maiia*, etc.).

(b) The length of \bar{i} was in earlier Latin expressed by writing it *ei*; but after Sulla's time by making the *i* taller than the other letters (*VICUS*, *LIBERI*, etc.). This tall *i* was also used for the semivowel or *j* sound, especially at the beginning of words (*Ivs*, *IvBETO*, etc.); and in later inscriptions it is used confusedly for both \bar{i} and \bar{j} .

(c) By an accent or 'apex' (') from about 63 B.C. onwards. In Republican inscriptions this apex is found over *A*, *E*, *EI*, *O*, *V* (for examples, see Corssen, I. p. 22); in the Augustan age it is almost universal.

The Romans devised a simple nomenclature for the letters, which has superseded the Graeco-Phoenician names of the Greek alphabet. The vowels were denoted by their own sound; the explosive (mute) consonants and *h* by a vowel after them; the fricative and nasal sounds by a vowel before them. The vowel employed for this purpose was *e*, except that *k*, *h* were called *ka*, *ha*, *q* was called *qu*, and *x*, *ix*.

CHAPTER IV.

CHANGES AND MODIFICATIONS OF SOUNDS¹.

THESE must be noticed here so far as they affect Latin and Greek, and further illustrations of their operation will appear hereafter in the explanation of inflections. Sounds, we must remember, are interchanged and modified (*a*) between two or more languages [*δάκρυ*, *lacrima*; duo, *two*, *zwei*; *πέντε*, *quinque*]; (*b*) in the same language [e. g. *tego*, *toga*; *τρέφω*, *θρέψω*]. These changes and modifications proceed according to regular rules, varying sometimes in different languages; and the correct investigation of these rules is the basis of all true etymology.

Two general principles affect etymology:—

Harder
sounds not
derived from
easier.

(*a*) *Harder sounds are not derived from easier*; or words which have retained a stronger letter from those which exhibit a correspondingly weak one. (In our Table of sounds Gutturals are stronger than Palatals, and so downwards; Tenuis stronger than Mediae; Explosive stronger than Fricative.) Thus *κοῖος* must be older than *κοῖος*; *equus* than *ἵππος* (*ἵκκος*, *αἶκκος*), *sus* than *ῥs*.

Apparent exceptions are often examples of the general phonetic law that change arises from weakness of articulation: e. g. *frag-or*, *frac-tus*. It is easier to pronounce tenuis and tenuis together, media and media, aspirate and aspirate: so in

¹ In this chapter I have gone over somewhat the same ground as that covered by Peile's 'Introduction to Greek and Latin Etymology,' adopting in the main his arrangement of the phenomena of phonetic change, with many of his illustrations.

Greek, λεκτὸς from λέγω, τυφθεῖς from τύπ-τω, πλεχθεῖς from πλέκω.

So *hiem-p-s* appears stronger than *hiem-s*; but *p* is merely phonetic, inserted because it is difficult to sound *s* after *m*. Again, the reduplicated form θίθημι is changed by Greeks to τίθημι, which is easier to pronounce, though τ by itself is stronger than θ.

(b) Generally, only letters pronounced at the same part of the mouth are etymologically interchangeable—dentals with dentals, labials with labials, etc. [Gutturals, however, the strongest sounds of all, sometimes give way altogether to dentals or labials; and in Sanskrit, Greek, Latin, and Gothic, are found less frequently than these latter.]

Sounds usually interchangeable only at the same part of the mouth.

Apparent exceptions may often be explained by the existence of both letters in the original form; e. g. *bis* and *dis*: cp. Sanskrit *divis*. Here the Latin *b* represents the *v* (*w*) sound. In ἵππος, Lat. *equus*, Sanskrit *açvas*, π represents the *v* sound. σὺν and *cum* are the same word; but from ξὺν=κύν: so κάπ-πος and *vap-or* are reconciled by Lithuanian *kvap-as*.

The latest and most comprehensive explanation of such changes, however, is that which refers them to the influence of *weak articulation*. One or two examples of its effects are subjoined.

1. *Labialism*, or change from *k* to π, *p*, is supposed by Curtius to be due to a parasitical *v* (*w*), unconsciously produced by lazy articulation of *k* ('labial after sound'). That *v* (*w*), following *k*, could change it to *p*, appears from Indo-European *akva*, Sanskrit *açva*, *equos*, ἵππος (which must=ἵκφος). Here *kv* has become in Greek ππ.

That the *v* in these cases was merely phonetic, not a suffix, appears from instances where Latin has *kv* (*qu*), as well as *k(c)*. e. g. *sequ-or*, *sec-undus*; *coqu-o*, *coc-us*: Greek ἔπομαι, πέπων show that *v* must be parasitic in Graeco-Italian time, and retained by Latin in some words while dropped by Greek (Peile, 286, γ¹). So with the change from *g* to β, *b*; Latin *gu* gives

¹ Corssen ('Ueber Aussprache,' etc., i. pp. 71-75) shows that *qu* was a mode of denoting the labial 'after sound,' or modification of the guttural

the middle step. In *urguere*, *urgere*, *tinguo*, *τέγγω*, *v* is parasitic ; but it is less often so after *g* than after *k*, *g* being an easier sound.

Dentalism.' 2. *Dentalism* : *k* changed to *t*, probably from influence of *y* sound (*i* or *j*), as in transition from *-cio* to *-tio*, where *i* is semivowel. Here it is part of a suffix ; but this proves power of *y* sound to change guttural to dental, and hence philologists assume a parasitic *y* where they find the change without any apparent reason. There are, however, but few certain examples : *ris*, *quis*, Sanskrit *kis* ; Indo-European *katvar*, *τέτταρες* (= *tér-Fapes*), *quattuor*.

These two instances of change from one class of sounds to another are given to show that some reason can generally be found for the apparent non-observance of our rule (*b*). We may now pass to the consideration of the two main heads of change, viz. :—

(*a*) *Dynamic change*, which is voluntary, and intended to express change of meaning ; the *formative* principle in language.

(*b*) *Phonetic change*, which is involuntary, and due mainly to lax articulation ; the *destructive* principle in language.

We need only here enumerate, with a few examples under each head, the principal changes of sounds that affect Latin and Greek ; referring the student for a fuller illustration to such books as Schleicher's 'Compendium,' and Peile's 'Introduction to Greek and Latin Etymology.'

A. *Dynamic change*.

Dynamic
change.
Reduplica-
tion.

1. *Reduplication*. This appears to be the earliest and most natural device of language to strengthen the expression of an idea, observed most frequently in the language of savages and children, and commoner in the earlier than in the later stage

tenuis, and so a transition from guttural *k* to labial *p*. In English, a similar labial modification of the dentals is expressed in *between*, *dwarf*, and palatal modification is heard in the pronunciation of *nature*, *verdure* (*ty*, *dy*). The labial modification of *d* (*dw*) is expressed in Old Latin *duellum*, but passed into the simple labial in classical Latin, *bellum*. Cp. *bis* with Sanskrit *duis*, quoted above ; and *duonoro(m)* = *bonorum* on old inscriptions.

of highly developed languages such as Greek and Latin. In these it is gradually superseded by more refined and subtle modes of expressing the required change of meaning ; and traces of its application remain only in occasional and (for the most part) exceptional phenomena :—

(a) In *imitative* words, e. g. *ululo*, ἀλαλάζω ; or names of animals expressive of their sound, e. g. *cuculus*, *turtur* ; ἔποψ, τέτιξ.

(b) In *Alliteration*¹, a favourite device of early Latin and Greek poetry (and also among other nations), to strengthen the expression of an idea by mere repetition of the sound of letters and syllables. Ennius and Naevius exhibit constant examples of its use ; as also does Plautus, with whom however it becomes more of a trick of composition. Lucretius also employs it with considerable effect (for examples, cp. Munro's 'Introduction to Notes,' II. pp. 106, 107, 1st ed.), and Vergil does not disdain this among other poetical artifices, e. g. Aen. vi. 834 :—

'Neu patriae validas in viscera vertite vires.'

Alliteration, of course, does not prove the use of reduplication as a *formative* principle in language ; but it illustrates the natural tendency to intensify an idea by the repetition of sound.

(c) As a formative principle, Reduplication is commonly employed in Indo-European languages to produce 'frequentative' and 'desiderative' verbs. In Sanskrit such verbs are regularly formed from every root, by reduplicating the initial consonant and vowel of the root, and suffixing in one case *ya*, in the other *ish* or *sh*. Thus from the root *budh* (= 'to know'), are formed *bobudhyāmi*² (frequentative or intensive), *bobudishāmi* (desiderative) ; from *vid* (= 'to know,' Greek *ἴδειν*, Latin *vid-ere*), *vividāmi* (frequentative), *vividishāmi* (desiderative). Similar formations in Greek and Latin are *μαμαρπεῖν* (root *mar*³, originally = 'to grind down,' 'rub,' and so 'polish'), 'to flash ;

¹ On the use and effects of alliteration in Latin poetry, see Munro's 'Lucretius,' Introduction to Notes, II. (vol. ii. p. 106, 1st ed.).

² Greek *μ-μύμαι* = *μ-μύ-γο-μαι* is exactly analogous to *bo-bhud-ya*.

³ The various ramifications of this root *mar* are exhaustively traced in Max Müller's 'Lectures,' II. vii.

παμφαίνειν (root φαν, as in ἐ-φάν-ην), ποιπνύω, δειδίσσομαι; μερμηρίζειν cp. Lat. *me-mor-ia*, etc.; or in nouns, λαῖλαψ (root λαβ, as in ἔ-λαβ-ον), δαιδάλεος, παιπαλόεις, ἀμαιμάκετος. The same force appears in the reduplicated 2 aorist.

(d) Reduplication is also employed in the formation of some 'present stems' (denoting, apparently, protracted as distinguished from momentary action), e.g. δίδωμι, τίθημι, γίγνομαι (= γι-γέν-ομαι), πίπτω (πι-πέτ-τω, root πετ, as in ἔ-πεσ-ον); Lat *sisto, gigno, sero* (= *se-so*, root *sa*, as in *sa-tum*). More commonly still (in Greek almost universally), to form 'perfect-stems,' e.g. λελοιπα (root λιπ, as in ἔ-λιπ-ον), *pepuli*: such forms, indeed, are too familiar to require illustration for the present.

Dynamic
change:
'Vowel-in-
tensifica-
tion.'

2. *Vowel Intensification* ('strengthening' or 'raising'), e.g. to strengthen the idea of a root for the formation of Noun or Verb stems λιπ-, λείπ-ω; *fīd-, fīd-o, foidus (foedus)*. It appears that Indo-European speech expressed these and similar modifications of ideas, by strengthening or raising the vocal sounds, in a regularly ascending scale of each of the three primitive vowels, *a, i, u*. This 'raising' or 'strengthening' was produced by allowing a stronger current of air to pass from the lungs before sounding the radical vowel of a word—thus, in effect, producing the sound of *a* before such vowel. We thus have three 'scales':—

a : 1. a + a = ā	2. a + ā = ȃ (no distinction between 1st
i : 1. a + i = ai (ē)	2. a + ai = āi. and 2nd).
u : 1. a + u = au (ō)	2. a + au = āu.

The vowel sounds thus gained were used by different branches of Indo-European peoples, according to different phonetic laws, with more or less regularity. Sanskrit exhibits it most clearly; except that *a* is sometimes weakened to *i* and *u*, and that the first raising of *i, u*, is *ē, ō*; the scales are employed as we have given them (see Peile, Lecture V. and Schleicher for illustration), in the formation from *roots* of noun and verb stems.

Greek and Latin exhibit traces of the same regular rise of vowel sounds; Greek most fully, the vowel system in that language being far stronger and less liable to corruption than in Latin.

The scales in Greek would be :—

Vowel-
scales:
Greek.

A scale. α, ε, ο, raised 1st to ο, ᾱ, η. 2nd to ω
(ε to ο, α to ᾱ or η).

e. g. γεν,	γονή,	γέ-γον-α.	ῥήγνυμ,	ῥρραγα,
λεγ,	λόγος,		πτήσσω,	πτῶξ.
φθερ,	φθόρος,			
λακ,	λέλακα,			
ἀγ,	ἔαγα,	} perfect stems.		

I scale. ι raised 1st to ει (αι). 2nd to οι.

e. g. λιπ,	λείπα,	λέλοιπα,
		εἶμ,
		οἶμος, οἶμῃ,
πιθ,	πείθω,	πέποιθα,
εἶδ,	εἶδω,	οἶδα.

U scale. υ raised 1st to ευ (αυ). 2nd to ου (ᾠυ).

e. g. ελευθ,	(ἡλύθ-ον),	εἰλήλουθα,
		κέλευθος, ἀκολουθέω,
πνυ,	πνεῦμα,	σεύω, σούμαι,
χv,	χέω,	σπεύδω, σπούδῃ,
		or as ω (χώννυμ).

Vowel scales in Latin :—

Vowel-
scales:
Latin.

A scale. e, o, a, raised 1st to o, ē, ā. 2nd to ō.

e. g. i. mens,	maeone,	2. sonus,	persōna,
nec-s,	noceo,	vōcs,	vōcem,
seq,	socius,	vōco,	
prec,	procus,	datōrem,	δοτῆρα,
fer,	fors,		dataram.
toga,	tēgula,		
tēgo,	lēgem,		
placere,	plācare.		

I scale. i raised to [ei], ī, ē. 2nd to [oi], oe, ū.
[ai], oe.

e. g. i. dic,	dico,	moenera,	moinera,	munera,
fid-es,	fido,	foidus,	foedus,	
		oinos,	unus.	

U scale. u raised 1st to [eu]. 2nd to [ou], ū.
au, ō.

duc,	dūcere,	douco (inscr.),
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but here distinction between the steps is quite lost : for *eu* and *ou* both passed into *u*.

3. *Nasalisation* ought probably to be reckoned as a process of 'Dynamic Change,' being an extension of consonantal sound

Dynamic
change:
Nasalisa-
tion.

parallel to that of vowel sound just described, e.g. in *tundo* (root *tud*), where *tund* : *tud* : : *πειθ*- : *πιθ*. In its origin the nasal is a variety of another sound (see above, p. 32), and the guttural nasal is found (except in Sanskrit) only in combination with the guttural which produced it (*ἀγγόνη*, *angustus*). Nasalisation occurs chiefly in the formation of a certain class of present stems in Greek and Latin; and in the verbs so formed it is (like vowel-intensification for the same purpose) confined to the present stem. This formation will be found discussed in chap. viii; and if the view there adopted, that the nasal is dynamic, and not merely part of a grammatical suffix, be correct, we must reckon Nasalisation with Reduplication and Vowel Intensification as a means of 'Dynamic change'¹.

Phonetic
change:

B. *Phonetic Change* :—

The scanty traces of vowel-strengthening in Latin suggest the opposite process of weakening or decay, which in vowels is particularly characteristic of that language. This brings us to the second head of change, viz. that which is involuntary, or 'phonetic' strictly so called, the principle of 'Phonetic Decay,' which plays so large a part in the history of language. As has already been pointed out (chap. iii.) the cause of such change is the effort after ease of articulation.

Its effects.

Its effects may be traced (i) in the substitution of a weaker for a stronger sound; (ii) in the loss of letters representing certain sounds; (iii) in 'assimilation' to a neighbouring sound, where the concurrence of two *dissimilar* sounds causes difficulty of pronunciation; (iv) in 'dissimilation,' where the concurrence of two *similar* sounds causes a like difficulty. We may look at these effects I. in vowels, II. in consonants.

Vowel-
change :
Substitu-
tion.

I. Vowels : (i) *Substitution of weaker for stronger sound*. The Latin language, we saw, retained fewer traces than Greek of the system of Vowel Intensification. On the contrary, it is especially distinguished by weakness and decay of vowel sounds. Thus of six diphthongs (*ai*, *ei*, *oi*, *au*, *eu*, *ou*), once in use as Latin sounds, and traceable on inscriptions, five had dwindled

¹ Consult especially Curtius, 'Tempora und Modi,' pp. 53-66; also Peile, *Lect. V.* pp. 93-95 (1st ed.).

down to simple sounds by the time of Plautus, *au* being the only one generally preserved (with the exception of *eu* in a few words, *neu*, *ceu*, *neuter*, *heus*, etc.); while here we have a weakening to *o*, and forms with this weaker sound side by side with those retaining *au*; e. g. *lautus*, *lotus*; *Claudius*, *Clodius*; *plaudo*, *explodo*. The other diphthongal sounds were entirely superseded by the weaker forms; e. g. *quaistor* by *quaestor*; *coirare* by *coerare*, then *curare* (cp. *foidus*, *foedus*); *deivus* by *dīvus*, *omneis* by *omnēs*; *joudex* by *judex*. In vowel sounds again, Latin shows a constantly progressive degradation of sounds from stronger to weaker, as represented in the following scale :—

A to O...U...E...I
 O to U...E...I
 U to E...I
 E to I, U
 I to E.

A comparison of Greek and Latin with Sanskrit shows that the original vowel *a* (largely predominant in Sanskrit), has been changed first by breaking up into the three sounds of *a*, *e*, *o* (e. g. *πῶδος*, *πόδες*, *πόδας*, all=Sanskrit *padas*), and then by further weakening of each of these three sounds. While, however, in Greek the process of vowel change was (speaking generally) confined to the breaking up of original *a* into *a*, *e*, *o*, (*a* remaining unaltered,) and a vowel of one scale but seldom passing into another (*a* to *i*, or *υ*¹): in Latin such further changes are so frequent as to assume the character of special phonetic laws of the Latin language. A few examples under the heads of formative elements, composition, and reduplication, will make this clear.

(a) *Formative elements* : 1. Verbs. Sanskrit *bhar-a-mas* be-comes Greek *φέρο-μεν* (Doric), the connecting vowel² *a* passing to the *o* sound and there remaining. Latin weakens *o* to *u* in

¹ Schleicher (comp. § 32) gives a few examples of *a* of primitive Indo-European roots weakened to *i* or *υ* in Greek, e. g. *dadami*, *δίδωμι*; *μῖλος*, from root *mal* (*mar*), etc.

² The 'connecting vowel' is explained in ch. viii.

substitution
of Vowels:

vol-u-mus, and generally weakens it still further to *i*, e. g. *fer-i-mus*. The unsubstantial character of the second *a* in *bhar-a-mas*, as a mere link between stem and termination, has perhaps helped its decline: and we see that in the termination *-mus* it has not sunk so far. In the termination again of 3rd pers. plur. (Sanskrit *anti*, Greek *-οντι* (Doric), Latin *-unt*), the weakening of *a* in Latin, though it goes one step further than Greek, stops at *u*; while such forms as *dederont*, found on inscriptions, and the retention of *o* after *u* in *quom*, *loquontur*, etc., show that the *o* sound was not entirely superseded. In *ferentem* and *ferendum*, however, the *a* before *nt* sinks down to *e*; old legal forms like *jure dicundo*, *res repetundae*, also *moribundus*, *oriundus*, *secundus* (= *sequendus*), etc., remaining as evidence of an earlier stage in the process of decline. The Greek participle stops short at *o*, in *φέροντος*.

In final syllables the vowel usually sinks to *e*, e. g. *monueront*, *-unt*; then (*nt* being lost by the lax pronunciation of the final syllable, which was characteristic of Latin) *monuere*; *uteris*, *utere*; *ipsus*, *ipse*; cp. ablative in *ē* of 3rd declension, originally *ī*. The reason for *i*, the weakest of the vowel sounds, thus passing to *e* in termination, is suggested by Corssen to be, that in pronouncing *e* the organs of speech vary least from their position when at rest.

2. Nouns. The masculine terminations *-os* and *-us* (in early Latin *-os*), represent Sanskrit *-as*, the *a* sinking in Greek to *o*, in Latin a step further to *u*. So neuter terminations; Sanskrit *ganas*, Greek *γένος*, Latin *genus*; in oblique cases sinking to *-es*, *γενέ(σ)ος*, *gener-is*; but in some words retaining the stronger sound, e. g. *corpor-is*=*corpos-is*, from *corpus*. In gen. plur. *duonoro(m)*=*bonorum*, shows that *-um* is a weakening of *-om* (cp. Greek *-ων*), representing an original *-am*, the older vowel sound being apparently retained in provincial Latin, and transmitted to modern Italian—e. g. *loro*=*illorum*.

In Composi-
tion.

(b) *Composition*: *a*, *o*, *u*, in Latin frequently weakened to *i*, the lightest vowel, from effort after lightness of sound; e. g. *causidicus* (*causa*), *armiger* (*armo-*), *corniger* (*cornu*). Especially is this the case in composition with prepositions, where such

weakening is the rule with but few exceptions, cp. e. g. *capio* ^{Substitution of Vowels:} with its compounds, and with *auceps*, *cestus* with *incestus*, etc. In Greek compound verbs, on the contrary, the original form remained generally intact—cp. *ἄγω*, *συνάγω*, *παράγω*, *κατάγω*, with *ago*, *redigo*, *subigo*, etc. Where this prevailing tendency did not obtain in Latin words, the exception may sometimes be accounted for by the particular meaning, e. g. in *tepefacere*, *califacere*, etc. The idea of causation, obviously represented by *facere*, may have prevented the sinking of the vowel which takes place in *conficere*, *perficere*, etc. Other exceptions, for which it is not easy to see a reason, are *post habere* by *prohibere*, *perfaciles* by *difficiles*, *expando* (perhaps to distinguish it from compounds of *pendo*, e. g. *expendo*), etc.

(c) *Reduplication*. Here Greek and Latin both weaken the ^{In Reduplication.} vowel in the reduplicated syllable in most cases to *e*, as in *τέτυφα* (root *τυπ*), *tetuli*. Latin in some words retains a stronger vowel, e. g. *poposci*, *cucurri*; but side by side with these are found such forms as *peposci*, showing the tendency to uniformity, regarding these syllables as mere grammatical forms. And Latin goes further than Greek in weakening the vowel of the radical syllable also, e. g. *pepigi* (root *pag*, seen in *pac-tum*), *cecidī* (root *cad*).

(ii) *Loss of Vowel Sounds*. Uncommon in Greek, except in a ^{Vowel-change: Loss.} few verbs which form a present stem by reduplication, and drop the root vowel, *πι-π(ε)τ-ω*, *γι-γ(ε)ν-ομαι*, *μι-μ(ε)ν-ω*, etc.; and sometimes in formative suffixes before an inflection, e. g. *πά-τ(ε)ρος*, *μήτ(ε)ρος*.

In Latin: *a* drops in *virgo* (= *virago*), *clarus* and *clamor* (root *cal*), *palma* (Greek *παλάμη*), *cupressos* (*κυνάριστος*); *o* in *vict(o)rix*, *nep(o)tis*, *doct(o)rina*, etc.: *u* before *l* (this consonant and vowel having an affinity for each other, as being produced near each other in the mouth), in *vinc(u)lum*, *peric(u)lum*, *saec(u)lum*, etc.; and in words formed with the suffix *-ulo*, the preceding consonant (especially *n* or *r*), then assimilating itself to *l* and producing the terminations *-ello*, *-ollo*, *-illo*, *-ullo*, e. g. *ocellus* (= *oculus*), *libellus* (= *liberulus*), *asellus* (*asinulus*), *homullus* (*homonulus*), *corolla* (*coronula*), *bacillus* (*baculus*),

pupillus (*pupululus*), *stella* (*ster-ula*): *e* before *r* (its most cognate consonant), especially in the suffixes *-ero*, *-bero*, *-tero*, etc.; *lit(e)ri*, *inf(e)ra*, *ag(e)ri*, *lateb(e)ra*, *sac(e)ro*, *soc(e)rus*, etc. Far more frequent is the loss of *i*, the thinnest of the vowel sounds, and the most frequent substitute for the stronger vowels. It seems capable of dropping out from almost any position, as e. g. in such familiar words as *quaes(i)tor*, *audac(i)ter*, *val(i)de*, *gaudeo* (cp. *gavisus*), *fer(i)t*; *dixi* (*dic-si-sti*), and similar contractions; *leg(i)men*, *repos(i)tus*; *co(i)go*, *sur(i)go*, *porgo* (beside the longer form *porrigo*) etc.

Effect of the
accent upon
vowel-loss.

That this decay of vowel sounds was caused by the vowel gradually dying out of *unaccented* syllables, is the most recent and most probable explanation. This is not the place for a discussion upon the Latin accent, such as may be found at length in Corssen's great work, 'Über Aussprache,' etc., and briefly summarised in Peile's 'Introduction.' We need only notice (1) that the decay first in quantity¹, and then in form of *final* syllables, which marks the history of Latin speech, seems most fully connected with the known law of Latin accentuation², never to accent the final syllable: (2) that many of the apparent metrical irregularities in the lines of Plautus and Terence (lines which, as intended to be spoken, are naturally subject to the practice of ordinary pronunciation), are best explained by the neglect in rapid pronunciation of sounds in syllables upon which no stress was laid³. We have only to pronounce the words ourselves to understand the Plautine prosody of *volūptātem*, *ferēntārius*, *senēctūti*; and in these and numberless other cases of comic prosody, the vowel sound is in

¹ As the lengthening a short vowel is a process of raising or increasing (or 'intensifying,' see p. 50) the vowel sound, so the shortening a long vowel is a decreasing or diminishing, and the result a *decay* in quantity.

² The rules of Latin accentuation (little familiar to us as *rules* from the fact that they coincide so nearly with our English accentuation of Latin words) are given by Quintilian, I. O. i. 5. 22-31. See Roby's 'Latin Grammar,' vol. i. § 296 sqq.; and Wordsworth, 'Fragments and Specimens,' Introd. ch. iv.

³ On this question of Plautine and Terentian prosody I may be permitted to refer to Introd., Part IV. of my (new) edition of Terence, *Andria* (Rivingtons, 1875). Reference is there made to other and fuller sources of information.

a kind of intermediate stage between full pronunciation and total extinction—written, but scarcely heard, and liable to be pronounced more or less distinctly according to chance.

N.B. The change of quantity from long to short in final syllables is a loss or weakening of vowel sound, just as raising or lengthening a short vowel is a gain or ‘intensification of sound.’ Loss of quantity is an intermediate step to extinction of a final sound; and the gradual decay of sounds can often be historically traced through distinct stages of decline—a syllable with a vowel naturally long becoming short in ordinary usages (as *amdt*, *monēt*, cp. *amāre*, *monēre*; *honōr*, cp. *honōris*), then losing its final consonant, and finally, perhaps, disappearing altogether.

(iii) *Assimilation of Vowels: (1) by Consonants*, through their phonetic relationship to particular vowels (see above).

Vowel-
change:
Assimila-
tion.

a, the fullest and most independent vowel sound, is subject to no such influence. It passes into *o* by weakening of articulation, and so down the scale of descent to *u*, *e*, *i*. None of these however rise to *a*, nor do *u*, *e*, *i*, rise to *o*. The difference in strength between *a* and *o* was clearly felt, as also between *o* and *u*; but between *u*, *e*, *i*, there was no such strongly marked difference, and in their case the order of descent is sometimes stopped or varied by the influence of neighbouring sounds. Thus *u*, by its affinity to the labial nasal *m*, was retained at an early stage of the language in *sumus*, *volumus*, the vowel which in Sanskrit is *a* (*bharamas*), and in Greek *o* (*φέρομεν*), sinking generally in Latin to *i* (*ferimus*). To the same influence (of labial *b*) perhaps are due the forms *Hecuba* (older *Hecoba*, Greek *Ἑκάβη*), and *trumpus* (Greek *θρίαμβος*). *l* however is the sound which, especially when followed by another consonant, had the greatest tendency to produce *u*. Thus *e* rises to *u* in *pulsus* from *pello*, *sepultus* from *sepelio*, cp. *mulgeo*, ἀμείλω; *stultus*, *stolidus*, *sulcus*, ὄλκος, *scopulus*, σκόπελος; *pessulus*, πάσσαλος; *crapula*, κραυπᾶλη. *e* had an especial affinity to *r*¹: so in oblique cases of neuters in *-us* (=Greek *-os*, Sanskrit *-as*), where the *s* becomes *r*, the *u* sinks to *e*, e. g. *funus*, *funeris*; *genus*, *generis*

¹ Roby, ‘Latin Grammar,’ vol. i. § 39.

Assimilation
of Vowels:

(=*genos-is*). Sometimes *i* rises to *e*, from influence of *r*, e. g. *pulvis, pulveris*; and *e* is the commonest vowel in Latin before two consonants or a double consonant (*x*); e. g. *jude**x*, but *judicis*: *auceps*, but *aucupis*—remaining sometimes where one of the two has been dropped, e. g. *mile(t)s, milit-is, dive(t)s, divitis*. Cp. also the participial forms, *-en(t)s* and *-endus*, the *u* surviving in *euntis*, etc., and in old legal forms, e. g. *jure dicundo*.

i, as the thinnest of vowel sounds, and the point to which all vowel sounds naturally tended to sink, can hardly be said to be the result of assimilation, so much as of the absence of any assimilating tendency which would retain the vowel at an earlier stage of decline. It seems however to have a certain affinity for dental sounds; e. g. before *n* in *machina, bal(i)nea, trutina* (cp. *μηχάνη, βαλάνειον, τρυπάνη*), and before the suffix *-no* in *dominus*, etc. (cp. with Greek *πιθάνος, ικανός*, etc.); in a large class of genitives in *-inis*, from stems originally in *-on*, e. g. *turbinis, imaginis, hominis* (old form *hemones*), *Apollinis* (old form *Apolones*); before *t, d*, in verbal conjugation, *agite, agito* (*ἀγέτε, ἀγέτω*), *gemitus* (*gemēre*), *domitus* (*domā-re*), *debitus* (*debēre*); or in formations like *candidus, frigidus* (*frigē-re*), *morbidus* (*morbo-*).

(2) Assimilation of vowels by other vowels is seen in the tendency of two vowels coming into contact to approach each other. Thus a root vowel *i*, in contact with *a, o*, and *u*, becomes *e* in *queam, queunt, eo, eam, eundi*, etc., but remains unmodified in forms where there is no such contact, *nequit, nequibat, imus, ibo*. The oblique cases of *is* show the same change. Again, where two vowels are separated by a consonant, the latter (especially *i*), tends to assimilate the former¹. This is seen in many proper names, *Duilius* for *Duellius*, *Lucilius* (*Lucullus*), *Popilius* (*populus*); in derivatives, such as *consilium* (*consul*), *facilis* (*facultas*), *inquilinus* (*incola*). *e* assimilates *o* in *bene* (originally *bono*, then *bone*), *i* in *illecebrae* (root *lic*, of *allicio*); *u* is assimilated by *o* in *soboles* (*suboles*), *e* by *u* in *tugurium* (*teg*).

¹ Roby, 'Latin Grammar,' vol. i. § 41.

(3) *Dissimilation* is of less frequent operation, occurring only in some cases where, from whatever cause, the same vowel sound occurred twice, and acting then as a bar to further change. Sometimes the two vowel sounds coalesced into one: thus, when *quom* tended to become *quum*, by substitution of *u* for *o*, the two vowels often coalesced, with the result *cum* (*q* not being written without *u*); but the principle of dissimilation retained the old spelling even in the Augustan age, and we have *quom* or *cum*, *equos* or *ecus*, *linguunt* and *lincunt*, etc., indifferently¹. The same principle operated in retaining the older forms *euntis* rather than *eentis*, *ipsius*, *illius* rather than *ipsiis*, *illiis* (the genitive ending *-us*, Greek *-os*, regularly sinking to *-is*), and in avoiding *-eais* (dat. plur. of *-is*), by the forms *-eis* or *-ieis*.

Vowel-
change:
Dissimila-
tion.

II. *Changes of Consonants*: The respective characteristics of Latin and Greek are here reversed. We have seen that the Latin vowel-system is weaker and has been subject to greater degeneration by phonetic change than the Greek: but the Latin consonants are stronger, and (as will be seen) are comparatively free from assimilation, which obscures the radical form of many Greek words². Bearing in mind what has been already said of the relative strength of sounds, and of the general principle which governs all phonetic change—the desire to secure ease of articulation, the following general rules of consonantal change will be intelligible:—

Consonant
change;
General ten-
dencies.

1. 'Explosive' (or 'Momentary') sounds change to 'Protracted' (or 'Fricative') sounds, not *vice versa*. e.g. *c* (*k*) to *c* (*s*), *centum* to French *cent*; *t* to *s*, *tu*, *rv*, *sv*; *d* to *l*, *δάκρυ*, *lacruma*, Ὀδυσσεύς, *Ulysses*; *b* to *v*, *habere*, Italian *avere*, French *avoir*; *p* to *v*, *sapere*, *savoir*: *ph*, *ch*, *th*, to *f*³, *φέω*, *fero*, *χολή*, *fel*, *θήρ* (Aeol. *φήρ*), *fera*; *ch* to *h*, *χαμαί*, *humi*, *χανδάνω*, *pre-hendo*, *ἔχω* (*ἰχέω*), *veho* (*vec-tus*).

2. Gutturals change to dentals and labials, not *vice versa*, except in such special phenomena as *Labialism* and *Dentalism*⁴.

¹ See Munro's 'Lucretius,' Introd. to Notes, I. (vol. ii. p. 27, 1st ed.).

² E.g. in *φράσσω*, as compared with Lat. *farc-io*, see below, p. 71.

³ For other examples see Roby, 'Latin Grammar,' i. § 99, and Corssen.

⁴ See above, pp. 47, 48.

Consonant
change:
general
tendencies.

3. *Tenuēs* change to *mediae* in their respective classes, not *vice versa* (except where influenced by other sounds), e. g. *frag-*, *frac-tus* (see above, p. 46).

4. Rules (2) and (3) apply most obviously and uniformly to Explosive sounds or Consonants proper. Among 'protracted' or momentary sounds it is not so easy to trace definite rules of change. The contact of the vocal organs being less complete, in fact, an approximation only, the sounds are much less definite; and their strength depends more or less upon the length of time during which they are sounded. The spirants *y*, *s*, *v*, do not seem to interchange much, but neither *s* nor *v* pass into *y*, which, according to order of pronunciation, would naturally be the strongest sound. Of the liquids, *r* seems to be older than *l*, Greek and Latin often giving *l* where Sanskrit has *r*; and hence some philologists consider that *l* arises always from a weakening of original *r*, pointing in illustration to the fact that many children are unable to sound *r*, and substitute the easier *l* for it. Schleicher, e. g. ('Compendium,' § 147, 156), refers to λευκός, *luc-eo*, from root *ruk* (appearing in Sanskrit as *ruj*): *loc-utus*, λακ-εῖν, cp. with Slavonic *rek-a*, 'I speak'; *re-lic-tus*, λιπ-εῖν, with Old Indian *rik'*, etc.: but there seem to be other roots in which *l* is invariably found (see Peile, p. 85). And in the Romance languages *l* and *r* interchange both ways; e. g. *peregrinus* becomes *pellegrino*, and *Tibur*, *Tivoli*; but *lusciniolus* becomes *rossignuolo*, and *apostolus*, *apôtre*. *s* in Latin always passes to *r* between vowels, except in some cases¹, where *s* is not original but a substitution (e. g. for *ss* in *causa*, for *d* in *esuries*, etc.), or in compounds of words with initial *s* (*desilio*); and in Greek it frequently passes into the *spiritus asper* (ἀλς, *sal*; ἔδος, *sedes*; ἄλη, *silva*, etc.). This *h* sound in Greek is always a remnant of one of the spirants, and weaker than any of them; in Latin it represents an original *gh*, and seems to have been more strongly sounded.

We may instance the effects of phonetic change upon consonants, under the same heads as those of vowel-change:—

¹ Roby, 'Latin Grammar,' i. § 193.

(1) *Substitution of weaker for stronger sound.* (a) *media* for *tenuis*, *g* for *k*, *pac-iscor*, *πήγ-νυμι*, *pag-us*, *pango*; *κυβερνάω*, *gubernō*; *curculio* (Plautus), *gurgulio*; *negotium* (*nec*). *t* seldom passes into *d*. In Greek *δάπης* (Aristoph. *Vespae* 676), perhaps=*τάπης*; *νέποδες* (Hom. *Od.* iv. 404), perhaps=*nepotes*. In Latin the confusion between *t* and *d* in the MS. spelling of words like *haud*, *apud*, *sed*, is to be referred to the general weakness and uncertainty of Latin final sounds. *p* passes to *b* in a few Greek words (e.g. *ὑβρις* from *ἰνέρις*), and in rather more Latin (e.g. *carbasus*, *κάπρασος*; *lambo*, *lab-ium*, *λάμπειν*, *λαφύσσω*); and *b* in Latin frequently represents Greek *φ*, *nubes*, *νέφος*; *orbis*, *ὄρβανος*; and the suffix *-ber*=*-φορός* (*φέρω*), *saluber*, *candela-brum*.

(b) Any further substitution of the mute or explosive sounds, e.g. *p*, *d*, *p*, *b*, belongs rather to the head of Assimilation. There are, however, in Latin a few instances of *d* passing into *l* and *r* (probably due to some peculiarity in the Latin pronunciation of *d*, bringing it very near the point at which *l* and *r* were sounded), e.g. *olere* from root *od*, cp. *odor*, *ὄδωδα*; *lacrima*=*δάκρυ* (cp. Gothic *tagr*, our 'tear'); *lēvir* (see Forcellini),=*δαήρ*, cp. Sanskrit *dēvar*. Similarly *lingua* may have been *dīngua*, cp. Gothic *tuggþ*, German *zunge*, English *tongue*; and Festus states that Livius Andronicus actually wrote *dacrima*¹. The change of *d* to *r* is chiefly found in the preposition *ad*, in composition before *v*, *f*, *arvocatos*, *arfuerunt*, *arvorsum*, *arvena*, *arfines*, etc; cp. also *arbiter* (*ad-beto*), *arcesso* (*ad-cesso*). This change is sometimes reckoned as an effect of assimilation; but more probably arose from a weak pronunciation of *d*, near the point at which *r* is produced. And the appearance of these words with the *d* in classical Latin seems to show that this carelessness of pronunciation had only just begun to produce an effect upon orthography, when it was checked by the literary

¹ Bergk suggests that in Ennius' well-known lines (*Epigr.* i. 4)—

'Nemo me lacrimis decoret neque funera fletu
Faxit. Cur? volito vivos per ora virum'—

the poet may have written *dacrumis*, which would obviously increase the force of the alliteration.

epoch of the language; and the inference is, that it was an accidental and isolated phenomena in the Latin pronunciation of that particular sound.

Changes of
Spirants.

(c) Changes of *Spirants* (*y*, *s*, *v*). These have especially affected Greek, and in a great measure produced the distinctive feature of accumulation of vowels without a consonant, e. g. *δηίοιο* [once *δασ-γδ-σγο*].

γ.

Y. This symbol is unknown in Greek from the earliest times, no doubt because the sound denoted by it had disappeared or become changed. It appears in Greek (1) as *ι*, especially in the suffix *γο*; thus *ἀνδρέ-ιο-ς*, *εὐσίβεια* (= *εὐσίβεισ-γα*), *γενέτειρα* (= *γενέτερ-γα*), *τετυφύια* (= *τετύφοτ-γα*), *δήμοιο* (Homeric genitive = *δήμο-σγο*); (2) as *ε*, in *κενὸς* [Epic form of *κεν-γδ*, 'empty'], and in the contracted future forms, *φενξοῦμαι* = *φενγ-σέο-μαι* = *φεύγ-σγο*, the *ι* remaining in the Doric form *πραξιόμες* = *πραγ-σίο-μες*; (3) as the 'spiritus asper,' *ἦπαρ*, *jecur*; *ἄγιος*, Sanskrit *jagjās*; *ὑσμίνη*, from root *yudh* (*ύθ* becoming *ύσ* before *μ*). Or (4) it is altogether lost, as e. g. in Attic genitive *ἵππου* = *ἵπποο*, cp. with Epic *ἵπποιο*; *πλέον* = *πλείον*, *φύω* = an older *φυνίω* (Sanskrit *dhujā-*), and *χάλκεος* (Doric) = *χάλκειος*, *ἀλάθεια* = *ἀλάθεια*.

σ.

S in Greek usually passes into the *spiritus asper* at the beginning of a word, as we see from many familiar examples where the analogy of other languages shows that the word once began with *σ*. (*ἔδος*, *ἔπτα*, *ἔπομαι* = *sequor*; *ὄς* = *σφός* = *suus*). Sometimes a *spiritus asper* is due to a lost *σ*, which was not initial, e. g. *εἰστήκειν* = *ε-ἑστήκειν* = *ε-σεστήκειν* (the root *sta* being reduplicated to *sa-sta*, *σε-στα*); *ἡμεῖς* = *ἄσμεῖς*, cp. the form *ἄμμες* = *ἄσμες*. At the end of roots and words an original *s* generally retained its place in Greek, and so in formative and case suffixes, being, in fact, one of the few final sounds which Greek euphony tolerated: at the beginning of words also it is sometimes found, e. g. *σιγάω*, *σελήνη*; but only regularly when a hard consonant follows, and protects it from the usual change to *ι*, as in *στορέννυμι*, *στοδ*, *σρίζω*, etc.

In Latin *s* between two vowels is almost always changed to *r*, e. g. *lares* = *lases* (Carmen Arvale), *feriae* = *fesiae* (cp. *festus*); *heri*, *hesternus*, *χθές*; *eram*, *ero*, from stem *es* of *esum*, *gero*

ges-tum; *oneris*, *generis*=*ones-is*, *genes-is*, from stem *onus*, ^{Changes of Spirants:}
genus; gen. plur. suffix *-rum*=an original *sam*, and *r* of passive voice=*se*. The only exceptions to this general law of change are (a) where *s* is not original, but a substitution for other sounds, e.g. for *ss* in *causa*, for *d* in *esuries* (*ed-o*), *ausim* (*aud-eo*); (b) in compounds of words where *s* was initial, *desilio*, *po-situra*, *prae-sentia*, *bi-sextus*, etc.; (c) in certain other words, viz. *asinus*, *basium*, *caesaries*, *casa*, *caseus*, *cisium*, *fusus*, *laser*, *miser*, *nasus*, *pusillus*, *quasillum*, *quaeso* (also *quaero*, *rosa*, *vâsa*); and in some proper names, *Caesar*, *Kaeso*, *Lausus*, *Pisa*, *Sisenna*, *Sosiae*.

In Greek, on the other hand, *σ* between two vowels drops out, e.g. *γένεσ-ος*, *γένεος*, *γένους*, *τύπτη-σσι*, *τύπτεαι*, *τύπτη*; and this is almost universal, except in cases where the loss of *σ* would have created confusion, and an artificial effort was therefore made to retain it, e.g. *τάσις* would become *ταῖς*. In derivatives of this form, in *-σις*, and in some inflections like *τίθησι*, *ἵσταται*, the tendency to drop *σ* was resisted; the intellectual or instinctive desire of retaining the part of a word, which was characteristic of its meaning, in these cases triumphing over the physical tendency to reduce the effort of articulation. Similarly in Latin, the tendency to drop final *-s*, seen in the constant change of forms like *amabaris*, *amaberis*, to *amabare*, *amabere*, is to a great extent resisted in the form *amaris*, because *amare* would lead to confusion with the pres. infin. active; and *ab* is much seldomer changed in composition than *sub*, because of the danger of confusion with *ad*.

In Latin final *-s* (like final *-m*), seems to have been faintly sounded in pronunciation¹, and thus was often omitted in writing also. In the scansion of early Latin poetry it was ignored before an initial consonant (a fact noticed by Cicero, *Orat.* 48. 161), e.g. *tum lateralis dolor certissimus nuntius mortis*, Ennius 601 (Vahlen), and so often in Lucretius (e.g. i. 159, 186), and once in Catullus (116. 8. Ellis). From Terence Wagner instances in the *Hecyra* *auctus sit* 334, *defessus sum*

¹ Roby, 'Latin Grammar,' § 193.

Changes of
Spirants :

443, *incertus sum* 450, *expertus sum* 489, *nullus sum* 653, *usus sit* 878—all endings of iambic lines. Vergil (Aen. xii. 115) in imitating Ennius's *funduntque elatis naribus lucem*, transposes thus (to suit a stricter pronunciation of final *s*): *lucemque elatis naribus efflant*. The tendency recurred in the fourth century A.D., and remains in Italian, Spanish, etc. It is also, of course, illustrated by such forms as *nauta* (cp. ναύτης), *ille, ipse* (for *illus, ipsus*), *puer, famul* (*puerus, famulus*), *pote, mage* (*potis, magis*), *mensae, mensai*, gen. sing. (for *mensais*), *amabare* (*amabaris*).

v or *f*.

V=F.

This spirant (pronounced¹ something like English *w*) was known to the Greeks at an early period by a distinct symbol, the Digamma (*f*), found, it is said, upon old Doric and Aeolic inscriptions, and traceable in its effect upon the scansion of Homer; but evidently passing out of use at the earliest period to which such inscriptions carry us back. It appears in ordinary classical Greek as *v*, e.g. δύο (Sanskrit *dva*, Gothic *twai*, German *zwei*), ναῦς (cp. *nav-is*, Sanskrit *nav-as*), and the Aeolic forms χεύω, πνέω=χέ*f*ω, πνέ*f*ω. In these latter Attic Greek has lost it, as also at the beginning of many words, in which, from the analogy of kindred forms in other languages, it must once have existed (οἶνος, *vinum*; οἶδα, *idēiv*, *vid-eo*; ἔργον, German *werk*, English *work*). It also appears as *spiritus asper* (on the evidence, again, of analogy with other languages), e.g. ἑσπερος, *vesper*; ἔννυμ=ἔσ-*ny*μ, *ves-tis*; ἴσ-*τ*ωρ=ἴδ-*τ*ωρ, from *Fiδ-* (the verb forms having lost it altogether, and ἴσ-*τ*ωρ in time coming to have the *spiritus lenis*). In a few cases *v* (*f*) seems to have been hardened or strengthened to *β*, e.g. the Laconian forms, βέρος=ἔρος (cp. Latin *vetus, veter-nus*), βέργον=*f*ἔργον; and βούλομαι, with its various forms, βάλλομαι (Aeolic), βῶλομαι (Doric), the original consonant of which must have been *v* (*f*), cp. *vol-o*, Slavonic *vol-it-i*, Gothic *vil-jan*, German *willen*, English *will*; for here the evidence of so many languages for the *v* sound prevents us from regarding Latin *v*

¹ On the pronunciation of *u* consonantal (*v*) see Wordsworth, 'Fragments,' etc., Introd. iii. §§ 10-15; Roby, 'Latin Grammar,' Preface, pp. xxxii-xlii.

as a weakening of β (as in words like *venio*, βαίω; *voro*, βόρα; *vivo*, βίω, etc.). The occasional confusion between b and v in Latin, and the representation (chiefly in Plutarch, a Boeotian Greek, and an indifferent Latin scholar) of Latin v by Greek β , has been pressed as an argument against the pronunciation of Latin v like w ; but for a discussion of this point the reader is referred to Roby's Latin Grammar, vol. i, Preface, pp. xxxvi-xlii. The substitution of μ and γ for f is also presumed in a few cases, of very uncertain etymology—see Peile, Lect. xi. pp. 236, 7.

In Latin, just as y is represented by i (consonantal), and sometimes disappears (e. g. in *min(i)or*, *ero* = *esio*), so v is represented by u (consonantal), and sometimes disappears as in *s(v)ibi*, *t(v)ibi* (roots *sva-*, *tva-*). It is also occasionally represented by f , e. g. *frango*, φρήννυμι; *frigus*, φριγέω: and the sign F is of course the old digamma, adopted by the Latins, but to denote a different sound.

(d) Changes of the *Aspirates*, especially the aspirated mediae *Changes of Aspirates.* bh , dh , gh in Latin. General rules:—These aspirates (gh , dh , bh), when they occur in the middle of a word, are generally represented by the corresponding unaspirated letters; when initial they can all be represented by the single sound f . This sound is not itself an aspirate, and has e. g. no power of assimilating a preceding nasal like the other mutes in Latin (*in-ficio*, but *im-petus*) so that it may be different in sound from Greek ϕ (ἐμφαίνω). Priscian's account of the difference between the two, that ph is pronounced *fixis* and f *non fixis labris*, is explained by some to mean that ph is an explosive or momentary, f a fricative or protracted, sound. If this be true, f must be considered as only a *spirant* or *breathing*, pronounced with a strong breath, and taking the place of h strongly sounded after b , d , g , the distinction between these letters being obscured, and only one part of the respective combinations $b + h$, $d + h$, $g + h$ being retained. At the beginning of a word the first part of each fell away, leaving only the latter under the form of f (or h): in the middle of a word, Latin generally retained the first part and the latter or aspirate fell away. We thus have $f = bh$

Changes of
Aspirates.

in *fari*, root *bha*, whence *φάσαι*; *fui*, root *bhu*, whence *-bo*, *-bam* of future and imperfect: *f=dh* in *firmus*, root *dhar*; *fores*, root *dhvār* (German *Thur*, English *door*): *f=gh* in *fa-mes*, *χα-ρίς* (Sanskrit *ga-ha-mi*); *fons*, root *fu*=Greek *χv* in *ἐ-χv-θηv* and forms of *χέfw*,=originally *ghu*, cp. Gothic *giutan*=German *giessen* (whence 'Giessbach' the name of a waterfall); *formus*, 'warm'=Sanskrit *ghar-mas*, Greek *θερ-μός*; *fel*=Greek *χολή*. *f* also=Greek *θ* in *femina*, *θῆλυς*, *fera*, *θῆρ*, and in other words, in some of which however it and the *θ* may represent an original *bh* or *dh*, as in *fores*. In some cases, side by side with the form in which the aspirate has sunk to *f*, is found another with *h*, used in the classical dialect; thus *haedus*, Sabine *foedus* [originally *gh*, the *g* remaining in 'goat']; *hariolus*, Sabine *fariolus* (Greek *χορ-δή*). So *hircus*, *fircus*; *hostis*, *fostis* (root *ghas*, in Gothic *gas-t-s*, English *guest*): and *fordeum*, *foedos*, attributed by Quinctilian (i. 4. 14) to the old Romans.

F occurs most frequently as representative of *bh*, with which it has the labial element in common; less often of *dh*, with which it has only the use of the upper teeth in common; least often of *gh*, with which its only connection appears to be, as already mentioned, the strong breath with which it and the *h* of *gh* were each pronounced.

Consonant
change:
Loss.

(2) Loss of Consonantal Sounds:—

(a) Initial sounds. *s* and *v* (*f*) are most frequently subject to loss in both Greek and Latin, especially before the nasals *m*, *n* and liquids *l*, *r*. Thus *μερίμνα*, cp. Sanskrit *smar-a-mi*, 'I remember'; *νίος*, cp. Old High German *snur*; *πέω*, root *pu*=*σpu* (the *s* appearing in *stream*, *strom*, etc., and in the first *p* of *ἔρρευσσα*, *ἐρρύην*, etc. by assimilation from *ἐ-σπευ-σα*, *ἐ-σπύ-ην*); show a loss of initial *σ* in Greek. In Latin, again, no native word begins with *sm*, *sn*, or *sr*, and even borrowed words sometimes lose the *s*, e. g. *myrrha*=*σμύρνα*. *v* (*f*) is lost before *p* in *πίζα*, German *Wurzel*, and *ρήγνυμι*, Latin *frango* (where the *f* was a weakening of an earlier *bh*, traceable in Gothic *brikan*, English *break*); and before vowels in all cases where it has not passed into the *spiritus asper*—e. g. *οἶνος*, *vinum*, *οἶκος*, *vicus*, *ἔργον*, *work*, *ιδ-εiv*, *vid-ere*, etc., etc.

Loss of other consonantal sounds, when initial, is generally 'sporadic,' i. e. confined to stray instances, which do not offer sufficient evidence of any general phonetic tendency—e. g. the loss of *c* in *ubi*, *unde*, preserved in *ali-cubi*, *ali-cunde* ¹. Consonant
change :
Loss.

(b) Medial sounds are rarely lost in Greek, except in avoiding difficult or impossible combinations of sounds, such as would be *τέτυφ-σθε*, *ἔσταλνται* (Ionic *ἐστάλαται*). *τ* falls out regularly in the oblique cases of certain nouns, e. g. *κῆρα(τ)-ος*, and perhaps in the 3 sing. of verbs (*ῥύπτει=ῥύπτε-τι*)—but another explanation is more probable here ². In Latin, medial sounds are more often lost. Corssen and Schleicher give a number of examples of such loss, chiefly before spirants and nasals, e. g. *miles=mīlīs*, *cesor cosol=censor consul*; *ma(g)-ior*, *pe(r)-iero*; *re(s)mus=retmus*, Greek *ῥετμος*, *exa(g)-men*, *lu(c)-na*, *de(c)-nus*, *po(s)-no* (cp. *pos-ui*). Before momentary sounds such loss is rare except before dentals—e. g. *tor(c)tus (torq-ueo)*, *ul(c)-tus*, *ju(s)dex*, *i(s)dem*. Schleicher considers that in all or most of these and similar examples the lost letter has first been *assimilated*, and then omitted, from the practice in old Latin of not writing the same consonant twice ³: e. g. *res-mus*, *rem-mus*, *remus*; *luc-na*, *lunna*, *luna*: an ingenious attempt to bring under a uniform rule a number of scattered examples, which may or may not be true, but is hardly capable of proof.

(c) Loss of Final Sounds, i. e. of the consonant or consonants of the final syllable. The tendency of all languages to throw back the accent from the final syllable, gave this syllable a weaker pronunciation, and made it liable to phonetic corruption, the extent of such corruption varying in different languages with the inability to accent the final syllable. Thus in Latin, which never accents the final syllable, there is more extensive loss of final consonantal sounds than in Sanskrit or Greek: just as we have already seen that its final vowel sounds are peculiarly liable to corruption, either by the

¹ Other examples are given by Peile, Lect. XII. p. 254; and Corssen ('Kritische Beiträge,' pp. 2, 57-64, 142).

² See below, ch. viii.

³ On double consonants in Latin, see above, p. 44, note.

Consonant
change:
Loss.

shortening of sounds originally long, or by total loss. The operation of this common tendency to weaken or drop difficult sounds in final unaccented syllables varies with the phonetic laws of individual languages by which certain final sounds are accepted or rejected. The Greek ear, for example, allowed no consonantal sound to end a word but *ν*, *ς*, and less frequently *ρ*; the only exceptions being *οὐκ* and *ἐκ* (*ξ* or *ψ* of course include *σ*): and when any other consonant appears etymologically at the end of a word it is usually rejected—e. g. *μέλι*=stem *μέλιτ*, as seen in *μέλιτ-ος*, *σῶμα*=*σῶματ-* (*σώματ-ος*), *ἦσαν*, Latin *erant*, and all participles in *-ων*, the stem of which is *-οντ*, as in oblique cases *τίπτοντ-ος*. In Latin *-nt* is an admissible final sound (*amant*, *erant*, etc.), though in participles *t* is changed to *s* in the nominative sing. (*amans*, *amantes*): and the different treatment in the two languages of this participial stem termination *-nt* is a good illustration of the direction given to general tendencies of phonetic change by the phonetic laws of individual languages. The paucity of admissible final sounds in Greek leads also to corruption of the final syllable even when accented, e. g. *τιθεῖς*=*τιθέντς*. In Latin, as has been shown, the tendency is for the final *vowel* to sink to a uniform sound of *e*, but there is considerable variety of consonantal termination: *s*, *m*, *t*, *r*, *c*, *d* being all found, besides many combinations impossible to Greek (which avoids the accumulation of consonants at the end of a word) e. g. in *ferunt*, *hunc*, *vult*, *fert*, *scrobs*, *ars*, *puls*, *hiemps*. Almost any combination, in fact, that could be pronounced was allowed, with the exception of double consonants (e. g. *oss-is*, but nominative *os*; *fellis*, *fel*) or two explosive mutes, e. g. *lact-is*, *lac*; *cord-is*, *cor*. As far then as the language of the classical Roman writers is concerned, there is less deterioration of final consonantal sounds than in Greek: but there is good reason for supposing that in the pronunciation of ordinary life, in the spoken language of which the plays of Plautus and Terence are the chief written representatives, 'neglect of final sounds'¹ was more the rule

¹ See Wagner, *Introd. to Aulul.*, pp. xxix-xxxv, and my Introduction, IV. to Terence, *Andria*.

than the exception ; so much so, that upon old inscriptions they are often actually omitted. This is most often the case with the most common final letters *s*, *m*, *t*. The case of final *s* has already been noticed (p. 63) under the changes of spirants.

Final *m*, as is evident from its regular disregard in Latin poetry, must have been weakly pronounced ; and this is confirmed by the statements of grammarians, and the evidence of early inscriptions, on which we find such forms as *oino* (*unum*), *viro* (*virum*), etc. (cp. Appendix I. Inscr. i. 2), and *dono*, *dedit* = *donum*, *dedit*. The omission is however rare in legal inscriptions, where greater accuracy was desirable, and in others after 130 B. C., when literature began to insist on precision of grammar and form ; but is found in the vulgar wall inscriptions at Pompeii, and towards the end of the third century A. D. becomes frequent again. The Italian forms *meco*, *diece* (*mecum*, *decem*) and the like, show how completely it must have become ignored in pronunciation in the later Empire : and the history above sketched of its appearance on inscriptions shows how the natural tendency of pronunciation towards phonetic decay was checked for a while during the predominance of a classical literary dialect, only to assert itself more completely in the end.

(3) Consonantal Change—Assimilation.

Sounds which require very different positions of the vocal organs, or which are respectively *tenues* and *mediae* (see above ch. iii. p. 31) are obviously difficult to pronounce close together ; and when two such incompatible sounds would otherwise come together, the principle of euphony operates to produce such a change in one or the other of the two sounds as will make them easy to pronounce in close contact. These changes are included under the general head of ‘Assimilation,’ by which is implied the change of one of two neighbouring sounds to a sound either the same as or sufficiently like the other to be ‘compatible’ with it, and therefore easy of pronunciation in close contact. It may indeed happen that the recurrence of the *same* sound twice is unpleasant to the ear, in which case euphony requires ‘Dissimilation,’ or change to

Consonant
change :
Assimila-
tion.

a sound different from, but compatible with, the sound whose repetition offends: but as there are naturally but few cases in which such repetition of the same sound is unpleasant, Dissimilation plays but a limited part in phonetic change.

Assimilation is either (a) of the first sound to the latter (*regressive* assimilation); or (b) of the second sound to the first (*progressive* assimilation); or the two sounds pass into (c) a third (doubled) sound; or (d) into a single letter. It is also (1) complete, where the assimilated letter becomes the same as the other; (2) partial or incomplete, where it passes into a similar sound.

Complete assimilation.

(1) Complete Assimilation:—

(a) Of the first to the second sound.—In Greek σ to ν or μ , $\epsilon\acute{\nu}\nu\mu\iota = \text{F}\acute{\epsilon}\sigma\text{-}\nu\mu\iota$ (*ves-tis*), $\epsilon\acute{\mu}\mu\iota$ (Aeol.) = $\acute{\epsilon}\sigma\text{-}\mu\iota$, $\acute{\alpha}\mu\mu\epsilon\varsigma$ (Dor. and Aeol.) = $\acute{\alpha}\text{-}\sigma\mu\epsilon\varsigma = \acute{\eta}\mu\epsilon\iota\varsigma$: labials to nasals, $\delta\mu\mu\alpha = \delta\pi\text{-}\mu\alpha$, $\gamma\rho\acute{\alpha}\mu\mu\alpha = \gamma\rho\acute{\alpha}\phi\text{-}\mu\alpha$, $\tau\acute{\epsilon}\tau\upsilon\mu\mu\alpha\iota = \tau\acute{\epsilon}\tau\upsilon\phi\text{-}\mu\alpha\iota$: nasals to liquids (especially $\sigma\acute{\nu}\nu$ and $\acute{\epsilon}\nu$ in composition)— $\sigma\upsilon\lambda\lambda\alpha\mu\beta\acute{\alpha}\nu\omega$, $\sigma\upsilon\pi\rho\acute{\epsilon}\omega$, etc. So $\pi\acute{o}\sigma\sigma\iota$ (Epic) = $\pi\acute{o}\delta\text{-}\sigma\iota$. In Latin ¹ *summus* = *sup-mus*, *flamma* = *flag-ma* (*flagrare*), *puella* = *puer(u)la*, *esse* = *ed-se* (*edo*): and so with prepositions in composition: *ad* in *appello*, *aggero*, etc., *ob* in *occurro*, *officio*, etc., *sub* in *summoveo*, etc., *ec*-($\epsilon\kappa$) in *effero*, etc., *dis* in *diffugio*, etc., *com* in *corruo*, etc.

(b) Of the second to the first sound.—In Greek (chiefly in Aeolic forms): $\kappa\acute{\epsilon}\nu\eta\omega = \kappa\acute{\epsilon}\nu\gamma\omega$, $\xi\sigma\tau\epsilon\lambda\lambda\alpha = \xi\sigma\tau\epsilon\lambda\text{-}\sigma\alpha$, $\acute{\epsilon}\nu\epsilon\mu\mu\alpha = \acute{\epsilon}\nu\epsilon\mu\sigma\alpha$. In Attic $\acute{\iota}\pi\pi\omicron\varsigma = \acute{\iota}\pi\text{Fos}$, cp. $\acute{\iota}\kappa\kappa\omicron\varsigma = \acute{\iota}\kappa\text{Fos}$ (Sanskrit *acvas*). In Latin *issimus* = *is-tumus*²: so *celerrimus*, *facillimus* = *celer-timus*, *facit-tumus*: *ferrem*, *vellem* = *fer-sem*, *vel-sem*.

(c) The two sounds pass into a (double letter) third sound. In Greek the sound $\sigma\sigma$ (or $\tau\tau$)³ seems in many cases to have arisen from the combination of the y (j) sound with dental and guttural mutes (i. e. from τy , θy , κy , γy , χy). Thus with dentals we have $\kappa\rho\acute{\epsilon}\sigma\sigma\omega\eta = \kappa\rho\acute{\epsilon}\tau\text{-}y\omega\eta$ ($\kappa\rho\acute{\alpha}\tau\text{-}\omicron\varsigma$), $\lambda\acute{\iota}\sigma\sigma\omicron\mu\alpha\iota = \lambda\acute{\iota}\tau\text{-}y\omicron\mu\alpha\iota$ ($\lambda\acute{\iota}\tau\text{-}\eta$), $\kappa\omicron\rho\acute{\upsilon}\sigma\sigma\omega = \kappa\omicron\rho\acute{\upsilon}\theta\text{-}y\omega$. In these and similar cases the y pro-

¹ Other examples are given by Roby, 'Latin Grammar,' § 34.

² On this and a rival explanation see below, ch. vi.

³ On the origin of $\sigma\sigma$ ($\tau\tau$) see Peile, *Lect.* XIII. pp. 268–271 (1st ed.); and especially Curtius, 'Tempora und Modi,' pp. 99–110 (on the formation of verbs in $\text{-}\sigma\sigma\omega$, $\text{-}\tau\tau\omega$).

bably, through influence of the preceding dental, passed into the dental sibilant *σ* (our *z*, or *s* in 'rise'), which then was either assimilated by, or assimilated, the preceding dental: e.g. *λίτ-γο-μαι* became *λίτ-σο-μαι*, which, by regressive assimilation, (*a*) became *λίσσομαι*, or by progressive (*b*) *λίττομαι*. With gutturals, the *γ* sound changed the guttural to a dental (Dentalism, see above, p. 48) which then produced the result just described. Thus *ἦσσαν*, *ελάσσαν*=*ἦκ-γων*, *ελαχ-ίων* (cp. *ἦκ-ιστος*, *ελάχ-ιστος*), *ἀνασσα*=*ἀναγκα*, *ῥοσα*=*ῥκα*, *ροσ*; *πέσσω*=*πέκγω* (root *πεκ*, *coq.*) and so with many verbs whose present tense ends in *-σσω*, but the stem in a guttural—e.g. *πράσσω* (*πραγ-*), *φράσσω* (*φρακ-*, Latin *farc-io*), *πτύσσω* (*πτύχ-η*), *ἀλλάσσω* (*ἀλλάγ-η*), *κηρύσσω* (*κήρ-υκ-ος*), *τάσσω* (*ταγ-ός*), *λεύσσω* (*λευκ-ός*), *πτήσσω* (*ἔπτακ-ον*), *ταράσσω* (*ταραχ-ή*).

Consonant
change:
Assimila-
tion.

In Latin the *t* of the suffixes *-tus* (participial) and *-tor* with the final letter of the root (especially if a dental) passes into *ss* e.g. *fissus*=*fid-tus*, *cassus* (Cic.)=*cad-tus*, *divisum* (Cic.)=*divid-tum*, *fossor*=*fod-tor*. As to the exact process of the change, there are two different views:—(1) Corssen, Schleicher, Curtius, and other leading philologists, assume that it is the result of *progressive* assimilation, the dental of the root being first weakened to *s* (because the Roman ear did not tolerate two dental mutes coming together), and the following *t* assimilated to this *s*; the change of *t* to *s* in cases like *mer-sum*, *lap-sum*, etc., where there is no dental at the end of the stem, being due to false analogy. (2) The other view (expounded by Mr. Roby in the Preface to his Latin Grammar, pp. lvii–lxi) is that *tt*, *dt* became first *ts*, *ds*, and then *ss* or *s*; *ts*, *ds* being in Latin 'unstable' combinations likely to be soon changed, whereas *st* (the assumed result of the first stage in the process of change of *tt*, *dt* on the other view) is a perfectly 'stable' sound, easy to pronounce and very common in Latin, for any further change of which there would be no phonetic reason. If, for example, *tond-tum* had (as on the other view) become *tons-tum*, this latter need have undergone no farther change (except perhaps to *tostum*, which in fact did result from *tors-tum*, the supine of *torreo*, stem *tors-*). Other arguments

urged against the first view, are (a) that it does not account (except on the arbitrary supposition of 'false analogy') for the supine in *-sum* from stems ending in *lg*, *rg*, *ll*, *rr*,—*cursum* (*curr-o*), *mul-sum*=*mulg-tum*, etc., and from a few other verbs (*labor*, *jubeo*, *premo*, *maneo*, *haereo*, etc.) whose perfect active is found with *-si*: (b) that the *progressive* assimilation which it supposes, though possible, is very rare in Latin; (c) that stems originally ending in *s* do not follow the prescribed change from *st* to *ss*: e. g. *ges-tum* does not become *gessum*.

(d) Two sounds coalesce into one letter in Greek, when dental and guttural mediae (δ, γ) are followed by *y*: e. g. *ἔζομαι* = *ἔδ-yo-μαι* (root *sed-* as in Latin), *ῥίζω* (root *od-*), *σχίζω*=*σχιδ-yω* (cp. Latin *scid-* in *scindo*), *Ζεύς*=*Δγεύς*, Sanskrit *Dyáuṣ*. ζ is thus a compound letter = δγ and then δs, s being the weak sibilant (z), and hence in prosody lengthens a preceding short vowel. As with *κγ* (see above, p. 71) so *γγ* became δγ, and this ζ: thus *σαλπίζω*=*σαλπίγ-yω*, *σφάζω*=*σφάγ-yω* (stem as in 2 aor. *ἔσφάγ-ην*), *πέζος* is *πεδ-ιός*, *ρίζα* is *ῥίδγα*, *φράζω* is *φράδ-yω* (*πέ-φραδ-ον*). In the Boeotian dialect *y* was assimilated to δ, producing δδ—e. g. *φράδ-δω*, *σαλπιδδω*—or δ initial, *Δεύς*, *Ζεύς*.

(2) Incomplete Assimilation:—

Incomplete
assimilation.

(a) Where the two sounds only approximate to each other, the change not being so fully carried out. This includes (a) all those 'euphonic' changes by which the final letter of a root or stem is made to correspond with the first letter of a termination either as *tenuis*, *media*, or *aspirate*—it being easier to sound two *tenuis*, two *mediae*, or two *aspirates* together. Thus in Greek before dental *tenuis*, *mediae*, or *aspirates* (τ, δ, θ) only *tenuis*, *mediae*, or *aspirates* respectively of other organs can stand; and the only allowable combinations are *κτ*, *πτ*, *γδ*, *βδ*, *χθ*, *φθ*. Consequently we have from *πλέκω*, *πλεχθῆναι* not *πλεκθῆναι*: from *λέγω*, *λεκτός* not *λεγ-τός*, *λεχθῆναι* not *λεγθῆναι*: from *δέχομαι*, *δεκτός* not *δεχτός*: from *γράφω*, *γραφ-τός* not *γραφτός*, *γράβδην* not *γράφδην*. So in Latin from *ago* we have *actus* not *ag-tus*: from *traho*, *tractus* not *trah-tus*: from *lego*, *lectus* not *leg-tus*. In most of these cases, actual pronunciation of the words will make the phonetic reason for the change clear.

Before the tenuis σ , γ and χ become κ , and β and ϕ become π : $\kappa\sigma$ is then written ξ , and $\pi\sigma$, ψ . Thus from $\tilde{\alpha}\gamma\omega$, $\tilde{\alpha}\gamma\text{-}\sigma\omega$ becomes $\tilde{\alpha}\kappa\omega$ ($\tilde{\alpha}\xi\omega$), cp. *recsi* (*rexi*)=*reg-si* from *rego*: $\delta\acute{\epsilon}\chi\omicron\mu\alpha\iota$, $\delta\acute{\epsilon}\kappa\text{-}\sigma\omicron\mu\alpha\iota$ ($\delta\acute{\epsilon}\xi\omicron\mu\alpha\iota$), cp. *traxi*=*trah-si* from *traho*: and so too with the futures of $\tau\rho\acute{\iota}\beta\omega$ and $\gamma\rho\acute{\alpha}\phi\omega$, or perfect of *scribo*.

Consonant
change:
Assimila-
tion.

(b) Nasals often influence the preceding sound. Thus in Greek before μ a *guttural* tends to become γ , a *dental* to become σ (the dental spirant). So we find $\delta\iota\omega\gamma\mu\acute{o}\varsigma$ not $\delta\iota\omega\kappa\text{-}\mu\acute{o}\varsigma$ ($\delta\iota\omega\kappa\text{-}\omega$), $\beta\acute{\epsilon}\beta\rho\epsilon\gamma\mu\alpha\iota$ not $\beta\acute{\epsilon}\beta\rho\epsilon\chi\mu\alpha\iota$ ($\beta\rho\acute{\epsilon}\chi\omega$): $\dot{\iota}\sigma\text{-}\mu\epsilon\nu$ not $\dot{\iota}\delta\text{-}\mu\epsilon\nu$, from $\omicron\dot{\iota}\delta\alpha$, $\eta\eta\sigma\text{-}\mu\alpha\iota$ not $\eta\eta\nu\tau\text{-}\mu\alpha\iota$ ($\acute{\alpha}\nu\tau\omega$), $\pi\acute{\epsilon}\pi\epsilon\iota\sigma\mu\alpha\iota$ not $\pi\acute{\epsilon}\pi\epsilon\iota\theta\text{-}\mu\alpha\iota$ ($\pi\acute{\epsilon}\iota\theta\text{-}\omega$). A labial before μ becomes μ by complete assimilation (see above, p. 70). In Latin *som-nus*=*sop-nus*, *Samnium*=*Sab(i)nium*. Nasals again are affected by a following consonant: thus in Greek ν before gutturals becomes the guttural nasal γ (*συγκαλέω* for *συν-καλέω*); and the labial nasal μ before labials (*ἐμπειρος*, *ἐμψυχος*); before liquids, as we have seen, it is completely assimilated (p. 70). So in Latin *n* before a labial mute or nasal became *m* (*impello*, *imbuo*, *immutus*), though this tendency of pronunciation did not at once affect the orthography of classical Latin¹.

(c) The change of τ to σ before ι in all Greek dialects but Doric [e.g. in 3 singular $\text{-}\tau\iota$, $\phi\eta\sigma\acute{\iota}$, Doric $\phi\alpha\tau\acute{\iota}$, cp. $\acute{\epsilon}\sigma\tau\acute{\iota}$: in abstract substantives in $\text{-}\sigma\iota\text{-}\varsigma$ = $\tau\iota\text{-}\varsigma$, $\phi\acute{\alpha}\sigma\iota\varsigma$, Homer and tragedians $\phi\acute{\alpha}\tau\iota\varsigma$: when suffix *ja*, *io* follows τ , e.g. $\pi\lambda\omicron\acute{\upsilon}\sigma\text{-}\iota\omicron\varsigma$ from $\pi\lambda\omicron\acute{\upsilon}\tau\text{-}\omicron\varsigma$, $\acute{\epsilon}\nu\iota\alpha\acute{\upsilon}\sigma\iota\omicron\varsigma$, $\gamma\epsilon\rho\upsilon\sigma\acute{\iota}\alpha$ = $\gamma\epsilon\rho\omicron\nu\tau\text{-}\iota\alpha$: and in forms like $\acute{\epsilon}\iota\kappa\omicron\sigma\acute{\iota}$, Doric $\phi\iota\kappa\alpha\tau\acute{\iota}$, Sanskrit *vinśati*, Latin *viginti*, and 3 plural $\phi\acute{\epsilon}\rho\omicron\upsilon\sigma\iota$ = $\phi\acute{\epsilon}\rho\omicron\nu\sigma\iota$ = $\phi\acute{\epsilon}\rho\omicron\nu\tau\iota$ (Doric)] is perhaps a case of assimilation, occurring first in cases where *i* with a vowel following represented the semi-vowel *y(j)* sound (e.g. $\pi\lambda\omicron\acute{\upsilon}\sigma\iota\omicron\varsigma$ = $\pi\lambda\omicron\acute{\upsilon}\tau\text{-}y\omicron\text{-}\varsigma$) and exercised an assibilating influence upon t , and then extended to all cases of τ followed by ι , in a preference for the softer sound σ . A similar change of θ to σ before ι in the Laconian and Boeotian dialects is evidenced by Aristophanes (*Lysistrata* 86 $\nu\alpha\acute{\iota}$ $\tau\acute{\omega}$ $\sigma\iota\acute{\omega}$, cp. also Ach. 906). Similarly

Change of t
to σ .

¹ On this point see Munro's 'Lucretius,' *Introd. to Notes*, I. (vol. ii. p. 26, 1st ed.).

Consonant
change:
Assimila-
tion.

in late Latin, and in the modern languages derived from it, *i* following *t*, *c*, *d*, *g* assibilated the preceding consonant, so that by the seventh century A. D. *-tio*, *-cio* were both pronounced *-sho* (whence our pronunciation of words like *nation*, *musician*). The Italians, again, pronounce *ci* like English *ch*, *gi* as *j*, and have *Marzo* from *Martius*, *palazzo* from *palatium*, *mezzo* from *medius*; while the French have assibilated *c* before other vowels also, e. g. *chambre* from *camera*. This assibilation of *ci*, *ti* is sometimes assumed to have taken place in classical times, from the confusion between *-cio* and *-tio* found in the MS. spelling of such words as *condicio*; this confusion being further applied as an argument for the soft pronunciation of Latin *c* before *i*¹. But this variety of spelling in MSS. is due partly to doubts as to etymology, partly to the assibilation of *ci*, *ti* in popular pronunciation at the time when the extant MSS. were written. Inscriptions (by far the most trustworthy guide in orthography) show no such variety of spelling till comparatively late times, the change of *ci* and interchange of *ci* and *ti* not appearing much before the seventh century A. D., and then chiefly in Gallic inscriptions. The change of *ti* (to *si*) was earlier and more general in the vulgar Latin and other Italian dialects; but (according to Corssen, who has gone most elaborately into the evidence²) it was not established in the speech of educated Romans till the fourth century A. D., though traceable much earlier in isolated forms, e. g. *Acherunsius* for *Acheruntios*, *Hortensius* (in old Latin *Hortentius*), and many names of towns in *-usio*, *-esio*, cp. with others in *-entio*, *-untio*; compare also *viciens* from *vicesiens*=*vicensiens* for *vicentiens*. There is no variety, in the most trustworthy inscriptions of earlier periods, in the spelling of such words as *dicio*, *condicio*, *solacium*, *patricius*, *tribunicius*, *contio*, *nuntius*, *indutiae*, *otium*, *negotium*, *setius*.

(4) Dissimilation.

Dissimilation, or the euphonic change of one of two *similar*

¹ Roby, 'Latin Grammar,' Preface, pp. xlviii-1; Wordsworth, 'Fragments,' Introd. iii, §§ 23-26.

² 'Ueber Aussprache,' etc., i. pp. 49-67.

sounds whose concurrence displeases the ear, is, as has been said, of comparatively rare occurrence. One regular case in both Greek and Latin is the change of a dental mute before another dental mute at the beginning of a suffix; ττ, δτ, and θτ becoming στ; τθ, δθ, θθ becoming σθ. Thus ἀνυστός=ἀνυτ-τός (ἀνύτω); ἰστωρ=ῥιδτωρ; πιστός, πεισθῆναι=πιθός, πειθ-θῆναι: in Latin *claustrum*=*claud-trum*, *equester*=*equit-ter*, *est*=*ed-ti* (*edo*). In Greek, again, one of two aspirate sounds close together is often dissimilated: e.g. θι-θημι becomes τί-θημι, ἐ-θύ-θην becomes ἐρύθην, and -θι of imperative κλύθι becomes τι from the preceding aspirate in τύφθῃτι, σῶθῃτι. In the reduplicated syllable of verbs beginning with two consonants, the consonant sound is lost (e.g. ἔκτονα for κέ-κτονα, ἔγνωκα for γέ-γνωκα) probably from the tendency to Dissimilation. Lastly in Latin the termination *-alis* is changed to *-aris* when an *l* precedes: e.g. *mortalis*, *lateralis*, but *puellaris*, *popularis*, *volgaris*; and *Parilia* a variety of *Palilia* (*Pales*).

Besides the changes which result in the substitution of a weaker for a stronger sound, there are others which seem to be due to *indistinctness* of utterance, in the pronunciation of words without sufficient clearness and sharpness to give each letter its proper sound. 'In this case,' says Mr. Peile, 'no other recognised letter is at first heard; but an indefinite amount of indistinct sound is produced after the letter thus slurred; which in time, if this relaxed pronunciation become common, often takes the form of the nearest sound in the existing alphabet. Thus two letters grow out of one; and a word is often actually increased.' As examples of this introduction of additional sound through indistinct pronunciation, we have (following Peile's enumeration), (1) 'Labialism,' the change from *k* to *p*, (2) 'Dentalism,' the change from *k* to *t* [for both these phenomena see above, pp. 47, 48]. (3) The insertion of a parasitic *d* before *y* or *i*. *dy*, we have already seen (p. 72), becomes *ζ* by partial assimilation of *y* to the weak dental spirant *z*: and when we find in Greek ζυγ-όν, but in all the cognate languages *y* of root *yug* or its regular substitute, the conclusion seems warranted that somehow or other a *d*

Consonant
change:
Dissimila-
tion.

Changes due
to indistinct
utterance.

Parasitic *d*
before *y* or *i*.

Parasitic *d*
before *y* or *i*.

sound, not radical, became heard before the *y*, and that thus this combination *dy* was avoided by passing to *ζ*, as in the cases already noticed. Curtius ('Griechische Etymologie,' p. 551 sq. second edition) gives examples of various forms arising, as he thinks, from the combination of *y* with a parasitic *d* arising from indistinct articulation: e. g. (a) *ζ* in *ζυγόν*, in *ζημία* (root *yam*), in *ζωμός* and *ζύμη* (Sanskrit *yásha*, Latin *ius*), in none of which is *δ* radical. The double verb forms *-αζω*, *-αω* are also explained by Curtius on the same principle: *-αω* being a variation from *αγο* with the loss of *y*, it is assumed that before *y* fell out it may have given rise to a parasitic *δ*—a very ingenious and not impossible explanation. (b) *δ**ι*, in the adjectival termination *-δίο-ς*, which Curtius regards as arising from the common *-ιο-* or *-γο-*; this termination *-δίο-* being always preceded by a vowel, after which the sounds *ιο* would be difficult to pronounce clearly. (Others, however, consider that *-δίο-* is weakened from original *-ργο-*: and the etymology is at best very doubtful.) The same applies to a few terminations in *-δεος*, e. g. *ἀδελφι-δεός*, where *δ* is not radical, but an original *ργο* might also be assumed. (c) *dy* loses the original *y*, so that parasitic *d* only remains. e. g. in the Boeotian *δυγόν* for *ζυγόν*, *ιεράδδω* for *ιεράδγω* (*ιεράζω*), or *ιεράγω* (*ιεράω*), *δυγόν* is strong evidence for the theory of the rise of *ζ* in *ζυγόν*: but we can hardly feel enough certainty either as to original form or meaning to pronounce a verdict upon other cases to which Curtius applies his theory—e. g. the particles *δη*, *δην* and suffixes *-δε* and *-ζε* as modifications of (δ)*ye* from the pronominal root *ya*; or adverbs in *-δον*, *-δην*, *-δα*, patronymics in *-δα*, and nominal stems in *-αδ-* or *-ιδ-*, as arising from the adjectival suffix *ya(ω)* with a parasitic *δ*. The rarity of *d* and great frequency of *y(j)* as an element in stem-formations of Indo-European languages make it difficult to find any other way of harmonising these Greek forms with those of kindred languages: and it is fairly urged by Curtius and his supporters that a process which seems proved in at least one case (*ζυγόν* and *δυγόν*, cp. with *iug-um*) is at least possible in others. (4) a parasitic *y* after *δ* is supposed by Curtius to account for the Homeric form *ἔδδαιεν* from *δεῖδω*

(as $\delta\gamma$ was shown to become $\delta\delta$ by assimilation), and for the frequent lengthening in Homer of a short syllable before $\delta\acute{\epsilon}\omicron\varsigma$ and $\delta\epsilon\iota\nu\acute{\omicron}\varsigma$ (Il. xii. 10; v. 817), $\delta\acute{\epsilon}\omicron\varsigma$ being sounded $\delta\gamma\acute{\epsilon}\omicron\varsigma$.

(5) The aspiration of unaspirated letters (in words where none of the cognate languages exhibit an aspirate or its substitutes) is found to some extent both in Sanskrit and Greek; a parasitic h being produced, most commonly by influence of an adjoining nasal or liquid or preceding σ , as in $\phi\rho\omicron\upsilon\delta\omicron\varsigma$ ($\pi\rho\omicron$), $\kappa\lambda\epsilon\iota\theta\rho\omicron\nu$ (the suffix $-\tau\rho\omicron\nu$), $\tau\acute{\epsilon}\phi\text{-}\rho\alpha$ (Latin $tep\text{-}eo$), $\lambda\acute{\upsilon}\chi\text{-}\nu\omicron\varsigma$ ($\lambda\upsilon\kappa\text{-}$, $luc\text{-}eo$), $\epsilon\acute{\xi}\alpha\iota\phi\upsilon\eta\varsigma$ ($\epsilon\acute{\xi}\alpha\pi\iota\eta\varsigma$), $\sigma\chi\acute{\iota}\zeta\omega$ ($scid$ in $sci(n)do$), and perhaps $\sigma\theta\acute{\epsilon}\text{-}\nu\omega$ (if a strengthened form of sta which in Sanskrit becomes $stha$). In other cases no cause for the change is apparent beyond mere laziness operating irregularly, and affecting only some words permanently, e.g. $\beta\lambda\acute{\epsilon}\phi\alpha\rho\omicron\nu$, $\sigma\omicron\phi\acute{\omicron}\varsigma$, $\sigma\alpha\phi\acute{\eta}\varsigma$ ($sap\text{-}io$). In Latin the aspirates had early disappeared; but irregular aspiration at the beginning of a word seems to have been known both in Latin and Greek. Both peoples left out the aspirate where it ought to begin a word, and in both there was a tendency to replace it where it had no right to be: just as in vulgar English the h is often regularly dropped, and almost as regularly inserted before a vowel where it is not required. There seems to have been a tendency in Greek to aspirate an initial υ , e.g. $\acute{\upsilon}\delta\omega\rho$, $\acute{\upsilon}\pi\acute{\omicron}$, $\acute{\upsilon}\sigma\tau\acute{\epsilon}\rho\omicron\varsigma$, a tendency which is intelligible if we suppose the sound of υ to have been something like German \ddot{u} , which is difficult to pronounce without a breath slipping out before it. The Aeolic $\acute{\eta}\mu\mu\epsilon\varsigma$ ($\acute{\eta}\mu\epsilon\acute{\iota}\varsigma$) is probably right: $\acute{\eta}\mu\epsilon\acute{\iota}\varsigma$ resting on a false analogy from $\acute{\upsilon}\mu\epsilon\acute{\iota}\varsigma$, where $\acute{\upsilon}$ represents y . In other cases, e.g. $\acute{\iota}\pi\pi\omicron\varsigma$, cp. with $\acute{\iota}\kappa\kappa\omicron\varsigma$, *equus*, etc.; $\acute{\eta}\lambda\iota\omicron\varsigma$, $\acute{\epsilon}\omega\varsigma$ in Attic Greek (other dialects having smooth breathing); $\acute{\alpha}\mu\alpha\rho\tau\acute{\epsilon}\acute{\iota}\nu$ (Attic), cp. with $\acute{\eta}\mu\beta\rho\omicron\tau\omicron\nu$ (Epic); there seems nothing to account for the aspirate, which is perhaps due to mere mistake.

In Latin the insertion of h was of later date, never being found, according to Corssen, upon Republican inscriptions. After p , c , t , r it occurs chiefly in Greek words, but not before 100 B.C. and not generally before 50 B.C. About this period

Aspiration
in Latin.

there appears to have begun a tendency to insert in pronunciation, and also in writing, a superfluous *h*: thus Cicero (Orat. 48, § 160) says that at one time he spoke as the old Romans did, *pulcros*, *Cetegos*, *triumpos*, but afterwards conformed to the ordinary practice and said *Pyrrhus*, *Phryges* (not as Ennius wrote, *Burrus*, *Bruges*); but still *sepulcra*, *coronas*, *lacrimas*, etc. Catullus wrote a well-known epigram (lxxxiv. ed. Ellis) ridiculing the pronunciation of *chommoda*, *hinsidias*, etc.: and according to Quintilian (I. O. i. 5, 20) some inscriptions in his time had *choronae*, *chenturiones*, *praechones*. In late inscriptions (fourth century A.D. and onwards) the utmost irregularity is seen, *h* being omitted and inserted almost at random, e.g. *hac* (*ac*), *hornat*, *hextricata*, *haditus*, *hauctoritas*, *omini*, *abibat*, *inospita*; from which we infer great confusion and uncertainty in the use of the aspirate in the ordinary pronunciation of those who cut the inscriptions. Finally in modern Italian the *h* is not sounded at all.

In MSS. of the best classical authors and in the writings of grammarians there is a good deal of uncertainty in the spelling of particular words, the errors being more often in omission of *h* (from reaction, probably, against the tendency noticed by Cicero and Catullus). The preferable spelling, for example, of the following words is *harundo*, *harena*, *heres*, *holus*, *hordeum*, *aruspex*, *edera*, *erus*, *umerus*, *umor*: but all these are constantly spelt otherwise in the best MSS.

Auxiliary
vowels.

(6) Auxiliary Vowels (prefixed or inserted).

An auxiliary (inorganic) vowel, purely phonetic in its origin, is found most frequently before *λ*, *ρ*, *μ*, *ν*, and rarely before an explosive sound; never before *τ*, *π*, *φ*. A protracted or fricative sound has something of a vowel character (see above, p. 30) about it, and it is therefore easy for a vowel to slip out before such a sound; whereas before a momentary (explosive) sound the vowel must be deliberately and consciously sounded. This additional ('prosthetic') vowel is sometimes found at the beginning, sometimes in the middle, of a word; oftenest as *a* or *ε*, less often as *o* or *ι*, seldom as *υ*. Examples in Greek; (*a*) initial: *ἀ-στῆρ* (cp. Latin *stella*=*ster-ula*, Sanskrit *star-*,

German *Stern*, our *star*): ἀ-σπαίρω (an easier form of σπαίρω); ^{Aux}ἐ-λαχὸς (Sanskrit *laghu-s*, Latin *levis*=*legu-is*); ἐ-μέ, ἐ-μοί, cp. with με, μοι (stem *ma*); ἐθέλω, θέλω; the Homeric ἐφέργειν, ἐφείκοσι, ἐφερόη, etc.; ὄ-νομα (Sanskrit *naman*, Latin *nomen*); ὄμφαλος=ὄ-νάφαλος (*navel*); ὀ-δοὺς (stem ὀδοντ-, Latin *dens*, Sanskrit *dant-*). In these and similar cases (a limited number in all) the vowel seems to be merely phonetic, the result of careless articulation.

(b) *Medial*. Here the case is not always so clear, because the fuller form may sometimes be the older and have lost its vowel. Thus ὀρέγω quoted by Schleicher (Comp. § 43), as referable to a root *arg* with *ε* inserted, is as likely to be from a root *rag* (Latin *reg-o*) with an initial prefix *o*. ἀλ(ε)γεινός, ἡλ-υ-θον (root ελθ-), ἀλ-έ-ξω (ἀλκ-, Latin *arc-eo*), are more probable cases. In the conjugation of many verbs we find a secondary stem formed by the phonetic addition of *ε* alternating with the original stem. Sometimes the enlarged stem forms the present, the shorter stem the other tenses, as γηθ-, γηθέ-ω, γέγηθ-α; δοκ-, δοκέ-ω, δέ-δογ-μαι: sometimes *vice versa*, as μαχ-, μάχ-ο-μαι, ἐ-μαχε-σάμην, οἰχ-, οἴχο-μαι, οἰχέ-σομαι. (Curtius' Greek Grammar, §§ 325, 6.) The 'connecting vowel' between the stem of verbs and the suffix, which some philologists (Bopp, Schleicher, etc.) regard as a demonstrative root, is by others considered a phonetic addition. The oldest verbs in Sanskrit, Greek, and Latin do not seem to possess it, and perhaps never had it: and though *a*, the strongest vowel (which in Sanskrit is the 'connecting vowel') is least adapted for a merely phonetic link, there is at least as much to be said for this view as the other.

In Latin there is but little evidence of a vowel as a phonetic prefix; *enim* (cp. *nam*) and *e-quidem* (*quidem*) being almost the only instances. The regular 'connecting vowel' of verbal conjugation of course remains, generally in the form of *i* (*fer-i-mus*) or in pres. sing. *o* [*fer-o-(mī)*].

(7) Insertion of Auxiliary Consonants.

In Greek between νρ, μρ, μλ; ἀν-δ-ρὸς=ἀνρὸς (stem ἀνερ-); ^{Auxi}μεσημβρία (= μεσημρία (*ἡμέρα*): ἀμβροτος=ἀμροτος (stem μρο-, ^{consr}

Latin *mor-*); μέμλωκα=μέμλωκα (stem μολ-). βρότος is for μβρότος=μρότος; βλίττω for μβλίττω=μελίττω; in both cases the β is parasitic.

In Latin *p* between *ms*—*hiemps*, *sumpsi*.

In modern languages French *gendre* (*gener*), *nombre* (*numerus*); English *humble* (*humilis*), *Ambleside* (= *Hamal-seat*; *Hamal* being a Norse name), are examples of similar phonetic insertion of *b*, *d*.

National
peculiarities
of utterance.

In the foregoing pages an attempt has been made to refer most of the changes of sound that have been noticed to one uniform principle, viz. the tendency to weak articulation and the desire to secure the easiest pronunciation. But in tracing the operation of such tendencies it must be remembered that the difficulty of uttering a particular sound varies with different tribes and nations. It varies, as we know, with different individuals sometimes from organic defect, sometimes from want of practice; and such varieties of pronunciation, unless deliberately corrected or successfully fought against, become permanent peculiarities¹. Hence (to take examples from English) we have people who cannot pronounce *r*, who 'lisp' the sound of *s* as *th*, who pronounce *v* as *w* and *vice versa*. And so with nations; certain sounds or classes of sounds are preferred or avoided², are more or less frequently or seldom pronounced: and in this way, on the separation of different tribes from a common stock, the same words take different shapes among different tribes, the ambiguous or intermediate sounds being differently fixed or differently developed. In Professor Max Müller's Lectures, Series II. Lecture iv. pp. 171-183, etc., will be found a number of illustrations (*a*) of the absence or presence of certain sounds in the speech of particular nations, (*b*) of the different shapes which the same root exhibits in different languages; from which a few selections are here made.

(*a*) The dentals seem to be the easiest sounds; they are the most universally employed and are the first uttered by children.

¹ See Max Müller's 'Lectures,' II. Lect. iv.

² Whitney, 'Life and Growth of Language,' p. 72.

But it is said that the dental media *d* does not occur in Chinese nor in three American dialects. Again, some of the Polynesian (Turanian) languages have no gutturals, and some North American dialects no labials: while in the language of the Sandwich Islands the gutturals and dentals are indistinguishable. The *tenuis* and *mediae* are not distinguished in the Polynesian dialects, and are often confused by the Welsh, who say *Tavit* for *David*, *pet* for *bed*. Sanskrit shows many weakened forms of consonants, due perhaps in some measure to the effects of the enervating climate of India: e.g. the guttural sibilant ञ (differently denoted by *ç* or *ś* in English writers) which arises from a careless pronunciation of *k* without bringing the root of the tongue firmly against the back of the palate; or the 'palatal' sounds च, ज (*ch, j*) which are weakenings of *k* and *g* respectively. Sanskrit has the aspirated mediae *gh, dh, bh*, which were difficult sounds to most other Indo-European nations (see above, p. 31). Greek retains the aspirated *tenuis* *χ, θ, φ*: Latin has neither. The comparative peculiarities of Latin and Greek with respect to final sounds have already been noticed (above, p. 68).

(b) The variation of the same root in different languages may be illustrated by 'Grimm's Law' of regular interchange ^{Grimm's Law.} between (1) Sanskrit, Greek, and Latin taken as one group, (2) Gothic and Low German dialects (including English), (3) High German and its stock (including modern German); the one having an *aspirated mute* (or fricative representing the aspirate) where the second has a *media* and the third a *tenuis*. The following formula will express this law:—

	I.	II.	III.
(1) Sanskrit, Greek, Latin . .	Aspirate	Media	Tenuis
(2) Gothic and Low German . .	Media	Tenuis	Aspirate
(3) High German, etc. . . .	Tenuis	Aspirate	Media

The following table gives a simple illustration of its working; *initial* letters being taken as freest from the influence of neighbouring consonants, and *dentals* as offering the most

Grimm's
Law.

regular illustration. Fuller illustrations are given in the table below, p. 86 :—

I.					
I.	{ Greek <i>θ</i>	θυγάτηρ	θήρ	θήρα	μέθυ
	{ Latin <i>f</i>		fera	fores	
2.	English <i>d</i>	daughter	deer	door	mead
3.	German <i>t</i> or <i>th</i> = <i>t</i>	tochter	thier	thor	meth
II.					
I.	{ Greek <i>δ</i>	ὀδὸς	δαμᾶν	δύο	ἔδ-ειν
	{ Latin <i>d</i>	dens	domare	duo	edere
2.	English <i>t</i>	tooth	tame	two	eat
3.	German <i>z</i> or <i>s</i> ¹ .	zahn	zähmen	zwei	essen
					wasser
III.					
I.	{ Greek <i>τ</i>	τὸ (σν)	τρεῖς	τὸ	
	{ Latin <i>t</i>	tu	tres	tenuis	is-tud
2.	English <i>th</i>	thou	three	thin	that
3.	German <i>d</i>	du	drei	dünn	das
					bruder.

The process of this 'Lautverschiebung,' or Dislocation of Consonants, between the languages in question, is thus traced by Professor Max Müller (Lectures, Series II. Lecture v).

Original process of the changes formulated in Grimm's Law.

1. The physiological analysis of sound shows, at each of the three points of consonantal contact, four possible varieties of pronunciation—viz. a *hard* sound (tenuis), or a *soft* sound (media), or aspiration by an audible emission of breath immediately after utterance of the hard or soft sound. Thus we have :—

Guttural	k, kh, g, gh.
Dental	t, th, d, dh.
Labial	p, ph, b, bh.

2. The development of, and maintenance of, the distinction between these varieties of articulation is characteristic of the increasing development of languages, in which new ideas are constantly requiring expression, and the phonetic organs are consequently driven to new devices which gradually assume

¹ So a Greek aspirate frequently corresponds to Latin *s* (see above, p. 62).

a settled and traditional form. There was probably a time when the Indo-European peoples (as yet un-separated) had no aspirates at all: and while some dialects never arrived at more than one set of aspirates, others ignored them altogether or lost them again in course of time. But it seems likely that before the separation of the Indo-European peoples, some of them at any rate had elaborated a threefold modification of consonantal contact—tenuis, media, and aspirate—thus securing in many cases (e.g. the roots *tar*, ‘to cross,’ *dar*, ‘to tear,’ *dhar*, ‘to hold’) distinct utterances for distinct expressions. The distinction thus gained was kept up in Sanskrit by tenuis, media, and aspirated media (*t*, *d*, *dh*); and in Greek by tenuis, media, and aspirated tenuis (*τ*, *δ*, *θ*). But in Latin, where the aspirates had not been realised at all, the distinct utterance of the third (or aspirated) variety of consonantal sound would naturally be lost. Thus (to take a case where only two roots, one containing an aspirated sound, had to be distinguished) in Sanskrit we have *da-dā-mi*, ‘I give,’ and *da-dhā-mi*, ‘I place;’ Greek keeps up the distinction in *δί-δω-μι* and *τί-θη-μι*; Latin is obliged to give it up, and retains only one of the two roots in *da-re*, ‘to give,’ replacing the other by different words, such as *facere* or *ponere*. But *credere*, *condere*, *abdere* point back to the root *dhā*, ‘to place,’ as having existed originally in Latin as in other cognate languages. The Teutonic tribes again, who had no aspirates, tried nevertheless to maintain the distinction between the threefold varieties of consonantal contact, which had come to them as ‘the phonetic inheritance of their Aryan (Indo-European) forefathers:’ and it is in their endeavours to supply the place of the aspirates in words common to them with the other Indo-European nations that Professor Max Müller sees the first step in the process of ‘Lautverschiebung.’ Where Sanskrit had aspirated *mediae*, and Greek aspirated *tenuis*, Gothic (like Celtic and Slavonic) preferred the corresponding *mediae*, High German the corresponding *tenuis*. None of these, however, borrowed from, or came after, another; they are ‘national varieties of the same type or idea.’

Grimm's
Law.

3. Thus far 'Lautverschiebung' is the representation of aspirate sounds by nations which did not possess them: but the stock of common Indo-European words which began with *mediae* (*g, b, d*) and *tenuis* (*k, t, p*) led to further changes in Gothic and High German utterance. These nations having, as we have seen, already used their *mediae* and *tenuis* respectively to supply the place of the aspirates, found themselves in a difficulty. The Goths, for instance, felt the distinction between the two series of consonantal sounds which Sanskrit kept distinct as *gh, dh, bh* and *g, d, b*; but they had already employed the second to denote the first; and so, in order to keep them distinct, fixed this latter series *g, d, b* in their own national utterance as *k, t, p*. Then arose the same difficulty of maintaining distinct the third series of sounds which Sanskrit and Greek had fixed as *k, t, p*; and the only remaining expedient was to adopt the corresponding 'hard breaths' *h, th*, and *f*.

Similarly the High German tribes, having taken the sounds which Greek took as *aspirate tenuis* *χ, θ, φ*, to be *k, t, p*, were driven to adopt the breaths *ch, z, f* as the second variety; while for the third variety nothing was left but the *mediae*, which however in the guttural and labial series have constantly been replaced by Gothic *h* and *f*.

If we denote the aspirates by (i), the *mediae* by (ii), the *tenuis* by (iii), and the breaths by (iv), the following table will exhibit the process just described:—

	Original Aspirate.	Media.	Tenuis.
A. { Sanskrit	(i) <i>gh, dh, bh.</i>	(ii) <i>g, d, b.</i>	(iii) <i>k, t, p.</i>
B. { Gothic	(ii) <i>g, d, b.</i>	(iii) <i>k, t, p.</i>	(iv) <i>h, th, f.</i>
A. { Greek	(i) <i>χ, θ, φ.</i>	(ii) <i>γ, δ, β.</i>	(iii) <i>κ, τ, π.</i>
C. { High German . .	(iii) <i>k, t, p.</i>	(iv) <i>ch, z, f.</i>	(ii) <i>(g), d, (b).</i> <div style="text-align: center;"><i>h f</i></div>

General Table of Grimm's Law.

Original Sounds.	A.			B. Gothic and Low German.	C. High German.
	Sanskrit.	Greek.	Latin.		
I. Aspirates	KH	gh (h)	χ	h, f(g, v)	g
	TH	dh (h)	θ	f (d, b)	d
	PH	bh (h)	φ	f (b)	b
II. Mediae	G	g (j)	γ	g	k
	D	d	δ	d	t
	B	b	β	ß	(p) ¹ ?
III. Tenuis	K	k	κ	c, qu	h, g (f)
	T	t	τ	t	th, d
	P	p	π	p	f, v

¹ There are few really Saxon, and no Gothic (unless foreign), words beginning with *p*. In Sanskrit, too, the consonant *b*, which ought to correspond to Gothic *p*, is seldom, if ever, an initial sound, its place being occupied by *v*. Hence this particular phase of Grimm's Law is inserted without illustration by both Bopp and Max Müller, to complete the scheme.

Examples to illustrate Grimm's Law (chiefly from Bopp).

Original Sounds.	A.			B.		C.	
	Sanskrit.	Greek.	Latin.	Gothic and Low German.	English.	Old High German.	German.
I. Aspirates :—							
KH	hansa hyas	χῆν χῆς χολῆ	(h)anser heri fel	gans	goose	kans	
TH	madhu	μέθυ	fera	dīus	gall deer mead	tior	thier
PH	lūti hirātār	φίλοι φάρμα	fero frater	laira brothar	bear brother	pīru pruoder	
II. Mediae :—							
G	janas janu	γῆνος γόνυ	genus genu	kuni knū	kind knee	chunni chnū	
D	dwan ¹	δῶ	duo	tvaī	two	zuei	zwei
B	dama	δῆμος	domus	fimr	timber		zimmer
III. Tenues :—							
K	hridaya ² kas	καρδία κῶς	cor(d) quis	hairsō kvas	heart who	hērza	
T	tvam ² tanus	τέρας τῆ	cornu tu	heorot thraīs	hart thou	hiruz dri	du drei
P	padas pūrṇa	πῶς πῆλος	tenuis pes plenus	fōtus fulls	three thin foot (f=b) full (f=b)	fuoꝛ vol	dūn fuss (f=asp.) voll

¹ Nom. dual.

² An irregular form ; we should expect krid-.

³ Nom. plural.

CHAPTER V.

FORMATION OF WORDS.

LANGUAGE is made up of articulate sounds combined into words. These sounds, however, convey no meaning in themselves (except in a few cases of interjectional sounds): and it is only when *words* are formed that we have language properly so called, the medium of communication between men, the means of expression of human thought. Thus, although to understand the changes and varieties in the outer form of language, it is necessary to investigate the nature of sounds and their production by the physical organs of voice—the ‘Phonology’ or ‘Sound-Lore’ of linguistic study; the ultimate facts in language regarded as an expression of thought or meaning are *words*—or rather, the elements, or several combinations of sounds expressive of meaning, into which a careful analysis shows that all words can be divided—i. e. ‘Morphology’ or ‘Word-Lore.’ These elements are broadly divided into ‘radical’ and ‘formative’—i. e. on the one hand, that portion of the word which gives its general meaning in the simplest and most rudimentary form; on the other, all those additions which vary or define or restrict this general idea, or adapt the word for its place among, and its relation to, other words combined into a sentence for the expression of thought. The *radical* element of a word is termed the *root*: while under the term *formative* elements are included (1) those modifications of the root either by ‘dynamic change’ or by the addition of suffixes (themselves originally independent roots), by which it becomes a Noun- or Verb-‘Stem’; (2)

Elements of language.

Analysis of words.
Radical and Formative elements.

the inflections expressive of Case, Number, or Gender, Tense, Mood, or Person, by which these Noun- or Verb-Stems are enabled to express so many various shades of meaning when placed in relation to each other as parts of a sentence.

Division of
words into
Noun and
Verb ex-
haustive.

[It should be noted here, that this division into Noun and Verb ('Nominal' and 'Verbal' Stems or Bases) is exhaustive of Indo-European words. In all Indo-European languages (and therefore in Greek and Latin) there are originally only two kinds of words distinguished as *noun* (*ὄνομα*) and *verb* (*ῥήμα*). The faculty of language in man leads him first to give *names* (*nomina*, *ὀνόματα*) as signs expressive of conceptions, and then leads him to form *verbs* (*verba*, *ῥήματα*) to express that which 'is said' about or predicated of the conception expressed by names. All other 'Parts of Speech' designated by grammatical analysis have been developed out of one or other of the two main classes of Nouns and Verbs. This is sufficiently obvious with *Adverbs*, which are often merely case-forms of existing nouns, substantive or adjective (e.g. *δικήν*, *instar*, *torva tuens*, *πλείον*, *πλείστα*), and can generally be traced back to archaic, or mutilated, or otherwise altered case-forms. The same applies to Prepositions, which grammatical analysis shows to have been originally adverbs¹, separable alike from the cases with which they are used, and from the words with which they are compounded in classical Greek or Latin; many prepositions being still used in those languages as adverbs (e.g. *ante*, *circum*, *contra*, *extra*, etc.) So too with Conjunctions and all 'Particles,' though it is not always possible to trace the original form in words which, being in very constant use and not as the most essential words in a sentence, are the more liable to corruption and decay in utterance. In words however such as *ὅτι*, *quod*, *quia*, *quam* it is obvious; *que* is some case form of *qui*; *ὥς* is evidently adverbial, and *ut* is merely its phonetic equivalent; *non*=*ne unum*; and *ne*, *nei* is evidently a case form: and similarly, numbers of examples

¹ See Curtius ('The Student's') Greek Grammar, §§ 444-446; 'Elucidations,' ch. xvii. pp. 200-202.

might be produced, were we concerned now with more elaborate proof of the statement here given¹.]

'Roots' are the oldest elements in language. By 'root' is *Roots*. meant generally the simplest combination of sounds which express the general meaning of any word or set of kindred words, e.g. *da-* is the root of Sanskrit *da-da-mi* (δίδωμι), *da-mus*, *da-tur*, etc., Sanskrit *da-tar* (δότηρ), etc. : *jug* of *ju(n)go jug-um* (for the nasal sound *n* in present stem cp. λαμβάνω, ἔλαβον).

The formative elements, suffixes and inflections, which form words from simple roots, are originally independent roots. Thus in δίδωμι, *da-da-mi*, *mi* is a weakened form of *ma* the pronominal element of first person ; in *voc-s*, *vak-s*, *s=sa* demonstrative pronoun.

Thus every I. E. word is a whole gradually sprung from several, or at least two 'roots.' The first of these is *the* 'root' in the ordinary acceptance of the term, i. e. *that which conveys the meaning* in general ; the others have degenerated into suffixes for expressing modifications of meaning.

In the 'Isolating' or 'Radical' stage of language, the roots remain separate and distinct : *i ma*.

In *Agglutinative* languages the principal root remains the same, but receives an addition in the form of a changeable prefix, suffix, or infix : *i-ma* or *i-mi*.

The *Inflectional*, or highest type of language, alters the principal root (by reduplication or by raising the vowel) for purposes of expression : *aimi*, εἶμι².

N.B.—A simple root without modification or addition of suffix cannot form a word.

Roots are always *monosyllabic* ; and are distinguished as :—

1. *Primitive* ; e. g. *i* (go), *ad* (eat), *da* (give).
2. *Secondary* ; e. g. *tud* (strike) *jug*. In such roots either the first or last consonant is modificatory.
3. *Tertiary* ; e. g. *plu* (flow), *ard* (hurt), *spac* (see), *spand* (tremble)³.

¹ See Appendix II.

² On the three 'stages' of linguistic growth, see ch. ii. pp. 4-7.

³ Max Müller, 'Lectures,' I. vii. pp. 249, 50.

The primary roots are the most important in the history of language, but their predicative power being generally too indefinite to answer the purpose of advancing thought, they were encroached upon and supplanted by secondary and tertiary roots.

Definition of
'Root.'

Philologists are not agreed upon the exact definition of a 'root.' Professor Max Müller (Lectures, I. p. 215) states a root to be 'whatever cannot be reduced to a simpler or more original form.' This, he says afterwards (Lectures, II. chap. iii.) is objected to as making a root a mere abstraction, and so unfit to explain the realities of language; to which he replies that in one sense a root *is* an abstraction; for it is a cause, which we only recognise and arrive at from its effects, viz. words. These effects we hear in language, but not the root itself. At the same time Professor Max Müller seems to maintain the real force of roots—e.g. that the root *da*, in some way or other which we cannot yet explain, has some necessary connection with the idea of '*giving*'—and regards them as 'phonetic types' which we cannot as yet explain, but which alone give us definite forms on which to rest our enquiries into language, standing between us and the 'chaos of onomatopoeia and interjections.'

Others who disbelieve in the existence of, or at least in any chance of finding out, any necessary connection between roots and the ideas expressed by them, prefer to consider roots as 'mere abstractions,' as 'headings' of common elements under which to class words belonging to the same family, as 'labels' or 'tickets' of classification. After all, they say, we can only find out in many cases the simplest forms in individual languages; and if in different languages we find different simplest forms or roots to express the same idea, it is hard to assume in the case of any one of them any inherent or natural power by which it is connected especially with that idea. An example of this view may be seen in Peile's '*Introduction to Greek and Latin Etymology*,' where the definition given of a root is 'that combination of sounds which remains *when a word is stripped of everything formative.*'

I am inclined to think this latter view is the safest, and the most consistent not only with the present state of the science of language but with its future prospects. As was said above (chap. i. pp. 2, 3) we arrive by analysis of language at certain primitive and elementary combinations of sounds, which we call '*roots*,' and which, forming as they do the common element in groups of connected or kindred words, we speak of as conveying such and such a meaning. But we must now, and I think always, accept these simplest forms as *ultimate facts* which Philology will never explain to us. Comparison of languages and analysis of words may now and then point to some simpler and more elementary form than has yet been reached: but the prospect of finding out the reason of such forms, and *why* they came to have the meanings which they have in language, is so remote, if not altogether visionary, that it may for all practical purposes be disregarded. And therefore I prefer such a description or definition of roots as assumes nothing with regard to their inherent power of expressing particular meanings, and whether under the title of 'abstractions,' 'labels,' or 'simplest forms' takes them as facts, but *unexplainable facts*.

On this view, then, a root may be defined as 'the simplest Definition of Root. ascertained combination of sounds, which expresses the general meaning of any word or set of kindred words in one or more Indo-European languages¹.'

Roots are for the most part '*predicative*:' but there is a limited number of '*pronominal*' or '*demonstrative*' roots (expressive e.g. of such ideas as 'here,' 'there,' 'this,' 'he,' 'I,' etc.), which cannot be traced back to predicative roots and must be considered independent of those ordinarily so called. These pronominal roots enter considerably into the formation of inflections².

¹ The distinction between roots, stems, and words may be shortly put thus:—The *root* is the original part of the word, giving a certain idea; the *stem* is that idea more closely defined to a certain bearing of it; the *inflected form* (or *word*) is the complete word as used in speech in connection with other words in a sentence. Compare 'Elucidations to Curtius' Greek Grammar,' Translator's Preface, p. vii.

² A list of Indo-European pronominal roots is given in Leo Meyer's

Stems. *Stems* (or 'themes') arise from roots by modification of the root-vowel, or addition of formative suffixes. The *stem* of a word is what remains when the 'inflections' (i. e. declension or conjugation ending) is withdrawn.

Inflections. *Inflections* are the alterations in or additions to a word, to fit it for different functions as parts of a sentence: the common part which remains the same under these different uses being the *stem*. Thus in λόγος, *dominus* :—

- N. λόγο-ς.
- G. λόγο-εσσι, λόγο-ιο, λόγο-ο (λόγου).
- D. λόγο-σι, λόγῳ.
- A. λόγο-ν.
- V. λόγο- (stem used interjectionally, and ο sinks to ε).

The common part λογο- is the *stem*: the *root* is λεγ- seen in λέγω.

- N. domino-ς, dominus.
- G. domino-ι, domini.
- D. domino-ι, dominō (or illo-ι, illi).
- A. domino-ν, dominum.
- Abl. domino-ο, dominō.
- V. domino-, dominē (as above).

The common part *domino-* is the *stem*: the *root* is *dom-* seen in *dom-a-re*, δέμειν, etc.: *-ino-* is a *suffix* added to the root to form a nominal base or stem.

**Distinction
of Stem and
Word.**

[Note that the *stem* is distinct from the *inflected* word, and must not be confounded even with the Nominative Case, e. g. σῶφρον- (seen in oblique cases σῶφρον-ος, κ.τ.λ.) is the stem of σῶφρων, πραγματ- of πᾶγμα; and Latin words like *consul*, *mulier* have dropped the final -s indicating the Nominative Case.]

'Vergleichende Grammatik,' I. pp. 324-335: cp. Ferrar, Comp. Gram. § 95. The following are among the more important of these roots and their derivatives: *kva* (who), Skt. *ka-s*, Gk. *τίς*, Lat. *quis*; *πῶς*, Ion. *κῶς*, *κα-ι* (a locative), *κεν*; *τα* (demonstrative), whence Gk. *τὸν, τὴν, τὸ, οὗτος*, etc., Lat. *is-te, ipse* (for *ip-te*), *tum, tam, item*, etc.; *da-*, whence *πο-δα-μός, δ-δε, quando, qui-dam, unde*, etc.; *sa* (demonstrative), Gk. *ὁ, ἡ, ἄ-παξ*; *na, an, ana*, whence Gk. *νᾶ, νιν, νῆ, νῦν, ἄν, ἐν, ἀνά*, Lat. *nos, ne, num, in*, etc.: *pa*, in *ἀ-πό, παρὰ, περὶ, ἀδ, pro, per*, etc.; *bha*, in Skt. inflections, *-bhyas, -bhyaṃ*, and *-bhis*, Gk. *-φι*, and Lat. *-bis, -bus* of dat. abl. plur.; *ma, tva*, and *sva* of 1st and 2nd pers. and reflexive pronoun.

So *vox* = *vōc-s*. The root is *vōc-* (seen in *vōc-o*): the stem *vōc-* by modification of the root-vowel. Analysis of Words.

φά-τι-s (speech, report), root *φα-*; nominal suffix *-τι-*, inflection *-s*. The same root *φα* is lengthened to form a verbal stem *φη-μί*: the nominal stem is *φατι-*.

So in the formation of *Verbs* :—

ἔιμι (*ibo*): root *ἔ* (in *ἔ-μεν*); stem *εἰ*, by modification of root: inflection *-μι*.

εἰμι (*sum*) = *ἔσμι* (*Aeolic*), Sanskrit *asmi*. Root and stem (in this case identical) *ἔσ*. Inflection *-μι*.

ῥο-νν-μι, root *ῥο-*, verbal suffix *-νν-* to form the present stem.

φείγ-ω = *φείγ-ο-μι*. Root *φνγ-* (in *ἔ-φνγ-ον*, 2 aor.) modified to form the present stem; inflection *-μι*; 'connecting vowel' between stem and inflection *-ο-* (in Latin *-i-*, as *fer-i-mus*).

[Note that in the Conjugation of verbs we must generally distinguish different Verbal-stems called generally 'Tense-Stems,' each the common element of a number of forms of the same verb. Thus in the scheme of *τίπτω* we have the 'pure verbal stem' *-τυπ-* (seen in 2 aor. *ἔ-τυπ-ον*); the 'present stem' *τίπτ-* common to all forms of present and imperfect tense; the 'perfect stem' *τέτυφ-*; the 'weak aorist stem' *-τυφα-*, and the 'strong aorist stem' *-τυπ-* identical with the 'pure verbal stem.' The fuller consideration of these will fall under the head of Verb-Inflection (chap. viii.), and they are enumerated now by way only of illustration.] (Tense-Stems.)

There are four main processes of word-formation from roots; viz. :— Word-formation.

(1) *Reduplication*—in imitative names and perfect stems, etc.

(2) *Internal Change* by 'raising' or 'intensifying' the root-vowel.

(3) *Addition of Suffixes*.

(4) *Composition*, i.e. the formation of two or more words into one.

Of these processes (1) and (2) have been considered and illustrated under the head of 'Dynamic Change' (chap. iv. pp. 48-52):

(4) is generally treated of in the grammar of each language. We are now, therefore, concerned mainly with (3).

Suffixes are of three kinds :—

Stem-Suffixes.

1. '*Suffixes of Inflection*' ('Inflections').
2. *Stem-Suffixes*, i.e. the distinguishing marks of noun-declension and verb-conjugation ; viz. *a, e, o* ; *i* ; *u* (nouns) : *a, e, i, u* (verbs).

The application of such 'stem-suffixes' in Latin and Greek nouns coincides to a considerable extent with the distinctions of gender (see below chap. vi.). We find many noun-stems and verb-stems apparently formed directly from the root by the addition of such suffixes (*am-a-re*, *λόγ-ο-ς*) : in others, especially consonant stems, there seems not to have been a stem suffix, or it has been dropped (*praeceps*=*praecipit-s*). Most verb-stems in Latin are formed by the mere addition of a stem-suffix to the root ; and hence the ordinary division of conjugations corresponds nearly enough to that which philology prescribes (see below chap. viii.). A certain number of nouns are also thus formed ; e.g. *conviva* (*conviv-ere*), *scriba* (*scrib-ere*) ; *fidus* = *fid-os* (*fid-ere*) ; *sonus* = *sono-s* (*son-e-re* and *son-a-re*), *domu-s* (*dom-a-re*, *δῆμ-ειν*). Other examples will be found in Roby's Latin Grammar, § 744.

Derivative Suffixes.

3. *Derivative Suffixes* are those additions (not being, in their existing form, recognisable roots) which are interposed between the root and the stem suffix ; or, where there is no stem-suffix, between the root and the suffix of inflection. If they are themselves recognisable as roots or words, the formation of the word then falls under the head of (4) Composition. They may of course have been, and probably were, originally words or significant roots ; but they are now merely combinations of sounds which have no separate use or meaning, and only modify the meaning of the root to which they are suffixed. They are principally used in the formation of Noun-Stems (including Participles and Infinitives of Verbs).

The following list of the principal derivative suffixes, with one or two examples of each, will be useful for future reference. Fuller particulars may be found in Schleicher, *Compendium*,

§§ 215-231 (pp. 361-462 German third edition). Comparative and Superlative Stems (Schleicher, §§ 232-236) will be discussed later (chap. vi.).

DERIVATIVE SUFFIXES.

1. *-ja* (Greek *-io*, Latin *-io*) *ἀγ-ιο-s*, *μοῖρα=μόρja*, *ῥοσα=ῥκja*, *Derivative Suffixes.*
eximius, *coniugium* (root *iug* of *iugum*), *ingenium*. As sign of feminine; *φέρουσα=φέροντ-ja*, *μέλαινα=μέλανja*.

2. *-va* (*vo*), *van=fo*, *φον: αἰὼν=αἰφῶν*, *aevum: arvum* (root *ar* of *arare*), *vacuus* (*vac* in *vac-are*).

Feut: *χαρίεις*, *χαρίfeut-os*, *χαρίεσσα=χαρίfeut-ja*.

For: *εἰδῶς=εἰδ-φότ-s*.

3. *-ma*, *-mo*, *-mon*, *-mat*, *-meno*: *τιμή*, *θυμός*, *τλήμων*, *εἶμα=φέσματ*, *ῥμμα=ῥπματ*; *forma*, *animus*, *sermo(n)*; partic. mid. and pass. *διδόμενος*, *alumnus* (*ἀλόμενος*); infin. *ἔδ-μεναι* (Homer).

4. *-an*, *-ana*, *-na*: *τέρην* (*-ενς*), *pecten*; *ὄργανο-ν*, *ἱκανο-s*, *ἡδονή*. Infin. *-ναι*, *-εἶναι*; *λελοιπέναι*, *στήναι*, *φέρειν=φέρειναι* = *φέρειναι*; *donum*, *somnus* (*sop-nus*): part. in *-dus*, *-on-do*, *en-do*, *-un-do*.

5. *-ta*, *-to*, *-tat*, in *adject.*, *subst.*, *part. pass.*, and *verbal adject.*: *πολίτης*, *κοῖτος*, *secta*; *κλυ-τός*, *γνω-τός*, *ama-tus*; *νεότης* (*νεότης*), *civitas* (*civitat-s*).

6. *-tar*, *-ter*, *-tor*, *-tra*, etc. in words expressive of relationship and *nomina agentis*: *πατήρ*, *φράτωρ*, *σωτήρ*, *ἱστωρ*, *ιατρός*, *ρήτρα*: *pater*, *victor* (or with additional suffix for fem. *vict(o)ric-s* *victrix*). Part. fut. stem *-turo*: and feminine *nomina actionis*; *sepultura*, *usura* (*ut-tura*).

7. *-ti*, *-si*, etc. in *nomina actionis*: *μη-τι-s* (root *μα*), *φά-τι-s* *φύσις*; *messis* (= *met-ti-s*), *vectis*, *potis*, *compos* (*compot-s*), *dos* (*dot-s*), *mens* (*ment-s*). Further formations; *-sia* *femin.* *θυ-σία*, *δοκίμασία*: Latin *-tio*, *-tia*, *initio*, *servitio*, *justitia*.

8. *-tu*, *βρωτῶν-s*, *δοτῶν*; *-συνη* (*-τυνη*), secondary suffix in *μνημοσύνη*, *δικαιοσύνη*. In Latin much commoner; e. g. *verbal nouns* in *-tus*, whence *supines* in *-um* and *-u*, *dictu*, *ama-tum*, *casum* = *cad-tum*, etc.; cp. *appara-tus*, *soni-tu-s*, etc. of purely *substantival* use. *-tuo* (*-tva*), a further formation in *mortuus*, *statua*, etc.: *-tu-ti*, *-tudon* or *-tu-din* in *servi-tut-is*, *altitudinis*.

9. *-ant*, *-ent*, *-ont* in partic. act. of pres. fut. and aor. $\delta\upsilon=$ $\xi\sigma\text{-ovt-}$, $\epsilon\acute{\omicron}\upsilon\sigma\alpha=\xi\sigma\text{-ovt-ja}$; $\iota\sigma\tau\alpha\varsigma=\iota\sigma\tau\alpha\upsilon\tau\text{-s}$; $\theta\epsilon\iota\varsigma=\theta\acute{\epsilon}\nu\tau\text{-s}$. So Latin *-ens=ent-s*: e. g. in *prae-sens*, *sens=es-ent-s* ($\xi\sigma\text{-ovt-s}$); and the further formation in *praesentia* corresponds to Greek fem. $\text{-ovsa}=\text{ovt-ja}$.

10. *-es*, *-os*, *-us* in neuters, $\gamma\acute{\epsilon}\nu\omicron\varsigma$, *genus* (genitive $\gamma\acute{\epsilon}\nu\epsilon(\sigma)\text{-os}$, *gener-is*), $\psi\epsilon\upsilon\delta\eta\varsigma$ (stem -es in neuter $\psi\epsilon\upsilon\delta\acute{\epsilon}\varsigma$ and genitive $\psi\epsilon\upsilon\delta\acute{\epsilon}(\sigma)\text{os}$, $\psi\epsilon\upsilon\delta\omicron\upsilon\varsigma$). Masculines in *-or=os*, *sopor*, *honor*, *labor* (*honos*, *labos*).

11. *-ka*, *-co*, Greek $\theta\acute{\eta}\text{-κη}$, and the common adjectival suffix -κος , $\phi\upsilon\sigma\iota\text{-κός}$, κ.τ.λ. Latin *pau-cus*, *lo-cus*, *civi-cus*, *belli-cus*, etc.

12. *-ra*, *-la*, Greek $\xi\rho\upsilon\theta\text{-ρο-s}$, $\lambda\alpha\mu\pi\text{-ρό-s}$, $\alpha\kappa\text{-ρο-s}$, κ.τ.λ.; $\delta\epsilon\iota\text{-λό-s}$ (root $\delta\iota$ in $\delta\acute{\epsilon}\text{-δι-μεν}$, $\delta\acute{\epsilon}\text{-δοι-κα}$), $\sigma\iota\gamma\eta\text{-λό-s}$; $\phi\acute{\upsilon}\text{-λη}$, $\omicron\mu\acute{\iota}\chi\text{-λη}$. -ερο- is a common variety of this suffix, $\phi\omicron\beta\epsilon\rho\acute{\omicron}\varsigma$, $\delta\rho\omicron\sigma\epsilon\rho\acute{\omicron}\varsigma$: but the ϵ is perhaps only the \omicron of stem $\phi\omicron\beta\omicron\text{-}$, $\delta\rho\omicron\sigma\omicron\text{-}$. The element -ρο or -λο seems to enter into other suffixes, -υρο , -ωρη , -ωλο , -ωλη , -ιλο . Latin *rub-ro-*, *gna-ro-*, *ple-ro-*, etc. *Sella=sed-la* ($=\xi\delta\text{-ρα}$), *cande-la*, *loque-la*, *ala*, *velum*, etc. The element *-la* also appears in other suffixes, -υλο- , -υλα- , -ίλι- , etc.

[Note.—In this and the preceding chapter (iv. ‘On Changes and Modifications of Sounds’) I have endeavoured to lay down as much of the general principles of Sound- and Word-Lore (Phonology and Morphology) as seemed to be a necessary introduction to the discussion of Greek and Latin Inflections; and that discussion will be illustrated by frequent reference to the principles here laid down. Beyond this it does not appear desirable, in a work like the present, to enter more fully into either the relations of sounds or the formation of stems; though an enquiry which claimed to be both strictly scientific and exhaustive would deal fully with both these points before discussing the changes which stems undergo when brought into relation with other words—i. e. inflection. Even then, however, it would be difficult to observe a purely scientific order: e. g. the formation of Participles and Infinitives (a part of the formation of words), cannot be explained without entering into the explanation of Tense-Stems, which is a question of *Inflection*: while the last and most advanced process in the

formation of words (Composition), pre-supposes in many cases the declension of nouns. It seems better, therefore, to refer the student to books which treat specially, and therefore more fully, questions of Phonology and Morphology, and to proceed at once to our main subject, the Noun and Verb Inflections of Greek and Latin¹.]

¹ On Phonology: Schleicher, 'Compendium,' §§ 1-204; Ferrar, 'Comparative Grammar,' ch. i-vi. §§ 1-86; Peile, 'Introduction to Greek and Latin Etymology,' Roby, 'Latin Grammar,' Book I. §§ 1-302; Curtius, (The Student's) 'Greek Grammar,' §§ 1-99; and 'Elucidations,' pp. 17-47. On Morphology: Schleicher, §§ 205-241; Ferrar, ch. vii. viii. §§ 87-127; Roby, Book III. §§ 740-999. In Curtius' 'Greek Grammar' and 'Elucidations' the formation of Noun and Verb stems is treated as a part of Noun and Verb Inflection.

The references here given are only to such works as are accessible to English readers. A much longer list might be made of German works; but such a list would only be of service to more advanced students than those for whom this book is written.

CHAPTER VI.

NOUN INFLECTION.

To the stem of an Indo-European noun are added (1) the inflections of case; (2) in the plural, the sign of number. (The dual is a variety of the plural, which in Latin and in most modern languages has fallen out of use altogether; and where retained, as in Greek and Sanskrit, has a tendency to disappear as a useless exuberance of expression. In Hellenistic and Modern Greek it does not exist.)

Number of
Cases.

The cases were originally eight: viz. Nominative, Accusative, Locative, Dative, Ablative, Genitive, Instrumental; and outside of these, the Vocative, which is no *case* properly so called, but the uninflected noun-stem used as an interjection. Sanskrit alone, however, retains the full number of independent case forms, and that only in the singular number: for in the plural the vocative disappears (the nominative being used, as in Greek or Latin), the dative and ablative unite, and the instrumental has only one form (as against two in singular); while the dual has only three distinct forms, one for nom. and acc., one for instr. dat. and abl., and one for gen. and loc. In the singular too gen. and abl., loc. and dat., are nearly related in form.

Merging of
separate
Case-forms.

In the kindred languages, the loss of distinct case-forms—or, to speak more correctly, the merging of two or more originally distinct case forms into one—must have begun early in their *linguistic* growth. The oldest accessible remains of the Greek *language* show us the ablative merged in the genitive; though

Latin, on the other hand, has retained the distinction of form. The dative and locative, again, have become one in Greek, and to a certain extent in Latin: while the instrumental has vanished from both. In both languages, however, we shall find remnants of both locative and instrumental *forms*, and Greek has at least one conspicuous remnant of its lost ablative case in the common adverbial termination *-ως* (see p. 116). The confusion in practice of the clear grammatical distinctions between different cases naturally led to intermixture and confusion of forms; so that no formula will represent all the correspondences between the case terminations of the three languages in question; but a general idea may be given thus:—

Sanskrit.		Greek.		Latin.
Nom. . . .		Nom. . . .		Nom.
Acc. . . .		Acc. . . .		Acc.
Dat. . . .		Dat. . . .		Dat.
Instr. . . .	}	"	}	Abl.
Loc. . . .		"		
Abl. . . .	}	Gen. . . .	}	Gen.
Gen. . . .		"		
Voc. . . .		Voc. . . .		Voc.

Gender.

The distinctions of *gender*, originating doubtless in the desire to give different names for creatures in which there is conspicuous difference of sex, has been in most Indo-European languages artificially extended far beyond the limits of natural sex. 'The world of untraceably sexual or of unsexual objects is not relegated to the indifferent "neuter;" great classes of names are masculine or feminine partly by poetical analogy, by an imaginary estimate of their distinctive qualities as like those of one or the other sex in the higher animals, especially man; partly by grammatical analogy, by resemblance in formation to words of gender already established. At any rate, in the common Indo-European period all or nearly all attributive words were inflected in three somewhat varying modes, to indicate generic distinctions; and the names of things followed one or *other of these modes*, and were masculine, or feminine,

Gender not
expressed
directly by
phonetic
elements.

or neuter¹. Yet, widespread as is their employment of generic distinction, the Indo-European languages have no special phonetic element for its expression; but, as occasion arose, various secondary means were employed. This seems to show that the universal distinction of gender which we find in Greek and Latin is neither original nor necessary, but a subsequent development of language.

Modes of generic distinction:—

1. In Consonant-Stems and stems in *-i-*, *-u-*, or a diphthong (*πατήρ*, *μήτηρ*, *facilis*, *manus*, *ναῦς*), the only distinction of gender is by external means, i.e. by the gender of some other word in grammatical agreement (*ὁ πατήρ*, *ἡ μήτηρ*, *saeva manus*, etc.). With *ā* stems (including *a-* *o-* stems) the raising of the vowel to *ā* (Greek *η*, Latin originally *-ā* of fem. sing.) generally denotes feminine gender. Occasionally however *ā* is masc. (*πολίτης*, *advenā*, the original quantity), and *ǎ* (*ǝ*, *ǔ*) is fem. (*ῥόδος*, *mālus*, *humus*, etc.): so that this means of generic distinction is not of invariably certain application.

2. Certain case-suffixes are appropriated to a particular gender; or a case is not employed in a particular gender, but its place is supplied by some other form. Thus in nom. sing. the neuter has no final *-s*, either the accusative (*novum*, *δευδόν*) or the mere uninflected stem (*ἀληθής*, *εὐρὺ*, *facile*, *facili*) being used.

3. Originally identical forms are distinguished, and the distinction adopted as a mark of gender, *ἱππότης*, *ἀρέτη*: so the breaking up of the *a* sound into *a o*, *novu-o-d*, *nova-d* (originally *navat*).

4. Certain stem forms are appropriated to certain genders, especially feminines, in *-ja*, *-is*, *-ic*, etc.; *φέρουσα* = *φέρουσα*, *δότρια* = *δότρια*, *αἰλητρὶς*, *victrix* = *vict(o)r-is*, etc.

Gender in
modern lan-
guages.

[The distinction of gender is retained in the Teutonic languages, e.g. modern German, and the Romance derivatives from Latin. English has abandoned the artificial part of the system, retaining a difference in *form* only where sex is really

¹ *Ferrar's 'Comparative Grammar,'* p. 200. See also Sayce, '*Principles of Comp. Philology,'* ch. vii. pp. 249-257, 1st ed.

an important distinction (e.g. *man*, *woman*; *bull*, *cow*; and the suffix *-ess* in *Princess*, *lioness*, etc.), but it retains its fundamental distinction in the pronouns *he*, *she*, *it*, or *who* and *what*. Other languages (e.g. modern Persian) have lost even that generic distinction: and in some of the Turanian family (e.g. Turkish and Finnish) grammatical gender is said never to have existed at all. There is of course in the necessity of things no reason for choosing one particular accident of a conception rather than another as a subject for grammatical distinctions; but, as a matter of fact, there is always a strong natural personifying tendency at work in men's minds, leading them to invest even inanimate things with the idea of sex. Thus a ship to a sailor, a railway train to a porter, is always '*she*;' and uneducated people often use the pronoun '*he*' where ordinary usage prescribes '*it*.' These are examples of the *natural* tendency to extend distinctions of gender taking effect in a language which has generally repudiated such extension to all objects as unnecessary: and it is to the unrestrained working of such natural tendencies that we may ascribe the great development of generic distinction at an early period in the Indo-European languages, before, in fact, they had as yet branched off from the primitive stock.]

Gender in
modern lan-
guages.

Declension.

Nouns are divided into two main classes or 'declensions' according to the final letter of the stem: viz. :—

Principles of
division into
Vowel and
Consonant
Declension.

I. *Vowel-Declension* (or A declension), including stems which end in *a*, *e*, *o* (the three varieties of *a* the original vowel, see p. 34); and thus comprising the 1st (*musa*-), 2nd (*domino*-), and 5th (*facie*-) 'declensions' of Latin Grammar; and the 1st (*πολιτα*-, *μουσα*-) and 2nd (*ταυρο*-) of Greek Grammar.

II. *Consonant-Declension*, including stems which end in a consonant, or the semi-vowels *-i*, *-u*, or diphthongs *av*, *ev*, *ov*: thus comprising the 3rd and 4th 'declensions' in Latin (*judic-is*, *navi-s*, *gradu-s*), and the corresponding nouns in Greek (*φύλακ-ος*, *πῶλι-s*, *βότρυ-s*, *βασιλεὺ-s*, *ναῦ-s*, *βοῦ-s*). A small number of nouns with stems in *o*- or *ω*- follow the inflections of this

declension, e.g. *πείθω*, *πείθο-ος*: *ἤρω-ς*, *ἤρω-ος*. The stem of words in this declension is best recognised in Greek in gen. sing., where all that remains after deducting the termination *-ος* is the stem, e.g. *λέων*, *λέοντ-ος*; *ὄνομα*, *ονόματ-ος*. This is sometimes (but by no means always) the case in Latin, e.g. *comes*, *comit-is*; *judex*, *judic-is*. The final consonant will of course generally be shown in this way, but the weakness of Latin vowel sounds (p. 53) often obscures the true vowel of the stem; thus in *auspex*, *auspic-is*, the nom. *auspec-s* gives the true form (*spec-*). Often neither retains it, e.g. *remex*, *remig-is*, the true form being *ag-*; *auceps*, *aucupis* (true form *cap-*). Such varieties however fall under the head of Latin Sound-Lore (see above, pp. 53-57).

Differences
of Inflection
between the
two Declen-
sions.

There are certain differences between the inflections of the two classes thus arranged, which make it more convenient to classify *i*, *u*, and diphthongal stems under the consonantal than under the vowel declension. Thus, in Greek:—

- (a) In gen. sing. consonant declension has always *-ος* (*-ως*).
- (b) In nom. plur. " " " *-ες*.

In Latin:—

- (a) Gen. sing. and nom. plur. end in a long vowel or diphthong in the vowel declension; in *-s* in the consonant declension.
- (b) Gen. plur. of vowel declension *-rum*; consonant declension *-um*.
- (c) Dat., abl. plur. of vowel declension *-is*; consonant declension *-bus*.

[In older Latin however some of these differences apparently did not exist: for we find in nouns of the vowel declension *-aes*, *-as*, *-es* as gen. sing. of *a* stems (see below, p. 114), and *-um* as term. of gen. plur. in both *a* and *o* stems; while certain words show *-bus* in dat. and abl. plur. (p. 122). Archaic Latin thus furnishes materials for approaching nearer to a uniform system of inflection for all stems than do the earliest traceable stages of the Greek language¹. In Sanskrit there is but one general scheme of terminations, the classes of declension (eight in number) signifying the different modes of combining the final

¹ See Roby's 'Latin Grammar,' Vol. i. Book II. ch. vi. xii.

letter of the stem or base with the termination: a system which might, no doubt, have been carried out by Latin and Greek grammarians, had there been an equally careful grammatical analysis at an equally early stage in the history of those languages, and had the formation of nouns and verbs from roots and 'crude bases' or stems been traceable with the same clearness as in Sanskrit.]

Nominative Singular :—

Formed in all nouns by suffixing *-s* to the stem. This *-s* is Nom. Sing. Greek and Latin. generally regarded as representing a pronominal root *-sa* (demonstrative pronoun); *sa*=Greek δ (cp. p. 62); *sā* (fem.)= η . This demonstrative root or stem with *-s* of nom. sing. forms *sa-s*, i.e. Greek δs , which in Homer is demonstrative. In Greek and Latin the *-s* of nom. sing. is retained in many words, which therefore need no further explanation (e.g. *Aeneas*, $\kappa\rho\iota\tau\eta s$; *dominus*, $\theta\epsilon\acute{o}s$; *urbs*, $\pi\acute{o}\lambda\iota s$; *gradus*, $\phi\alpha\kappa\iota s$, $\beta\alpha\sigma\iota\lambda\epsilon\acute{u}s$). From others it has disappeared, but its presence can generally be traced: e.g. masc. vowel stems in *-a* have lost it, but such In vowel stems. double forms of masculine words as $\iota\pi\acute{\nu}\acute{o}\tau\eta s$ and $\iota\pi\acute{\nu}\acute{o}\tau\alpha$ (Hom.), $\alpha\iota\chi\mu\acute{\eta}\eta s$ and $\alpha\iota\chi\mu\acute{\eta}\tau\alpha$, are sufficient evidence for its having once existed. (Compare also the archaic Latin forms *paricidas*, *hasticapas*, and *poeta*, *Apella*, beside $\pi\acute{o}\iota\eta\tau\eta s$, $\Lambda\pi\acute{\epsilon}\lambda\lambda\eta s$.) Bopp (§ 136), Schleicher (§ 246), and others, assume its loss from feminine stems in *a-*, as *bona*, $\acute{\alpha}\gamma\alpha\theta\acute{\alpha}$, $\sigma\iota\nu\acute{\alpha}$: but there is no satisfactory evidence that such stems ever took the *-s* of nom. sing. Benfey ('Orient and Occident,' i. p. 298) maintains that they did not.

Consonant Stems (Greek).

Guttural and *Labial* stems: *-s* with the stem vowel becomes ξ or ψ . $\phi\acute{\upsilon}\lambda\alpha\xi$ (stem $\phi\upsilon\lambda\alpha\kappa-$), $\phi\lambda\acute{o}\xi$ ($\phi\lambda\omicron\gamma-$), $\delta\psi$ ($\delta\psi-$).

In Greek Cons. stem

Dental Stems: τ and δ never remain before *s*, but disappear, the preceding vowel being often lengthened in compensation, e.g. $\lambda\acute{\alpha}\mu\pi\alpha s$ ($\lambda\acute{\alpha}\mu\pi\alpha\delta-$), $\chi\acute{\alpha}\rho\iota s$ ($\chi\acute{\alpha}\rho\iota\tau-$), $\tau\epsilon\upsilon\phi\acute{o}s$ ($\tau\epsilon\upsilon\phi\acute{o}\tau-$). In $\delta\acute{\alpha}\mu\alpha\tau$ ($\delta\acute{\alpha}\mu\alpha\tau-$) both τ and s disappear. Stems in *-vr* sometimes lose both consonants before *s* ($\tau\acute{\upsilon}\psi\acute{\alpha}s=\tau\acute{\upsilon}\psi\alpha\upsilon\tau-$, $\delta\acute{o}\upsilon s=\delta\acute{o}\nu\tau-$, sometimes lose τ and s retaining υ ($\phi\acute{\epsilon}\rho\omega\upsilon=\phi\acute{\epsilon}\rho\omicron\upsilon\tau-$).

In *-v stems* sometimes the υ , sometimes the *-s* is lost; the

1om. Sing. vowel being in each case lengthened, e.g. *τάλας* (stem *ταλαν-*), *φρήν* (*φρεν-*), *χθών* (*χθον-*): and sometimes both forms are found, e.g. *θις*, *θίν*; *δελφίς*, *δελφίν* (that in *-s* being the older).

After *-ρ* stems, *s* is lost, *πατήρ* (*πατέρ-s*): but Aeolic keeps both consonants,—*χῆρς* (= *χείρ*), *μάκρς*. In *μάρτυς* (*μάρτυρ-s*) the *ρ* disappears. The solitary *-λ* stem (*ἄλς*) retains both *λ* and *s*.

In *-s* stems the second *-s* denoting nom. sing. is lost and the vowel lengthened, e.g. *ἀληθής*, stem *ἀληθείς*.

n Latin
cons. stems.

Consonant Stems (Latin):—

Guttural and *Labial* stems: *s* is added to the stem, e.g. *vox* (*voc-*), *lex* (*leg-*), *auceps*, *urbs*.

Dental stems: *t* and *d* disappear before *-s*, and the preceding vowel was originally lengthened in compensation; but in Classical Latin the tendency to shorten final syllables has again shortened the vowel, except in monosyllables and after *i-* preceding. Thus *pēs* (*pēd-is*), *ariēs* (*ariēt-is*: but *mīlēs* (*mīlīt-is*), *equēs* (*equīt-is*), etc. Stems in *-nt* only reject *t* (*amans*, *amant-is*), Latin being more tolerant than Greek of combinations of final consonants; but in old Latin and in the common dialect we find *infās*, *sapies*, etc. (cp. the parallel forms *quoties*, *quotiens*).

In *-s* stems *-s* of nom. sing. is lost, and the preceding vowel originally lengthened, but in Classical Latin generally short. We find however *Cerēs* (*Cerēs-is*), *arbōs* (*arbōr-is*). In the declension of such stems the final *-s* became *r* in oblique cases (except *vas*), and this *r* often supplanted final *-s* of nom. e.g. *arbōs*, *arbōr*; *honos*, *honor*; *vomīs*, *vomer*; *robur* cp. with *vetus* (the *-s* being in all cases the older form). Stems in *-n* if masc. or fem. lose *-ns*, as *homo* (*homon-s*); but in some words *n* is retained (*pecten*, *flamen*), and in *sanguis* (originally *sanguīs*, Lucr. iv. 1050) = *sanguin-s*, *-s* is retained and *n* lost. After *-r* and *-l* stems *-s* is always lost, but the preceding vowel was originally lengthened as in Greek: *sāl* (*sāl-is*), *pār* (*pār-is*), *actōr* (*actōr-is*).

In *-i* and *-u* stems *s* is generally kept (*igni-s*, *gradu-s*): but where *r* or *l* after another consonant precede *i*, the full termina-

tion *-is* is lost, and *e* inserted before *r*; e. g. *acer*=*acri-s*, which remains as fem. nom.; *vigil*=*vigilis*.

[In Sanskrit nom. sing. *-s* is omitted after consonantal stems, ^{Sanskrit} Nom. Sing. the vowel being sometimes lengthened in compensation, sometimes not. Thus *vāk* is nom. sing. from stem *vak-*, Latin *vox*=*voc-s* and *durmanās* (δυσμένης) nom. sing. of stem *durmanas* (δύσμενες); but *bhāran* (φέρων) is nom. sing. of stem *bharant-* (φέρουτ-). Stems in *ār* (masc.) and *ār* (fem.) reject both *r* and *s*, thus *pitā* (stem *pitar*)=πατήρ, *datā* (stem *dātār*)=δότηρ. It will be observed that in all these words the Greek forms of nom. sing. are fuller than the corresponding Sanskrit.]

Nominative Plural :—

Originally a reduplication of the sign for nom. sing., *-sasa*; Nom. Plur.: then *-sas* (which is actually found in Vedic Sanskrit as nom. plur. termination in *a-* stems, e. g. *ácva-sas* from *ácva-s*); and finally *-as* (Greek *-es* of consonant declension), which is the form in most Indo-European languages, and survives in one of the few remaining English inflections, the *-s* of plural signification.

In Greek *-es* (= *-as*) is added to consonant stems, as ποίμεν-*es*, In Greek; ἰχθυ-*es*, μάντι-*es*. Sometimes the vowel of *-i* and *-u* stems is raised; e. g. πόλεις, πόλῃες, πόλεις=πόλεϋ-*es* from πολει-, the altered form of stem πολι- (whence also the Ionic πολι-*es* without raising the vowel); and πολέϊς=πόλεϋ-*es* from πολευ, the altered form of stem πολυ-: cp. τάχες, ἐγγέλεις. In these the *υ* of stem has been raised to *ευ*, and the *υ* of this diphthong then changed to *ϝ*, which of course disappears altogether (above, pp. 64, 66).

The nom. plur. of vowel stems *-oi*, *-ai*, shows no trace of final *-s*, though on the analogy of Latin (see below, p. 107) we should infer that it once existed. It has been suggested (Schleicher, Comp. § 247) that the loss of *-s* began with nom. plur. of pronominal stem *ta-* (το-): i. e. τοὶ, ταί; this stem *ta-* according to the theory being increased by the suffix *ja* (*y* or *j*) a common derivative suffix (see above, p. 95), would form in nom. plur. *tāy-as*, which by loss of final syllable would become *tāi* (τοὶ or ταί): and that this termination *-oi* *-ai* was gradually applied by analogy to all *a-* and *o-* stems. This is ingenious; but it rests

Nom. Plur. upon an assumption for which there is no evidence one way or the other; and in philological enquiries it is better to confine ourselves to the *facts* of language, and to be content with unsolved problems rather than risk hypotheses.

In Latin. *Latin Nom. Plural*.:—

Consonantal stems; always in *-ēs*, the quantity of which is supposed to be due to analogy from the *i*-stems. It is probable, however, that the original termination was *-ēs* (corresponding to *ās*, *ēs*), which e.g. in *quattuor* has dropped off altogether (cp. *τέτταρ-ες*): so in Umbrian *frater*=*frat(e)r-as*, Oscan *censtur*=*cens(t)or-es*. Nom. plur. of *i*-stems always in *-ēs*: here *ēs* was probably added to stem, thus giving *-ies*, which became *ēs*, *īs* or *eis* (all found on inscriptions and in MSS.). [Another explanation is that the stem *ι-* was raised to *ey* (as *πόμεις*=*πόμεν-ες* above) so that *ovēs*=*ovēs*=*ovey-es*.]

u-stems in *-ūs*=*u-ēs* (cp. *νέκυ-ες*).

a-stems; nom. plur. *as* or in archaic Latin *-ai*; but it is inferred from a comparison of the other Italian dialects that the original form was *-as* (= *a-es*) e.g. Umbrian *urtas*, *totas* (= Latin *ortae*, *totae*; Oscan *uasas*, *scriptas* (= *arae*, *scriptae*). *Matrona* (nom. plur.) found on an inscription is supposed to point to this older form in *-as* with *-s* dropped; but it might equally be an error for *matronai*, and in inscriptions a wide margin must always be allowed for merely casual errors of the cutter¹. If *-as* is the original form, how do we get *ai*, *ae*? The most plausible theory is that the *i* here represents an increase of the stem by *i*, such as will hereafter be shown in the pronominal declension (*ha-i-c*, *haec*, etc. see below, chap. vii). Thus *equae*=*equai*=*equa-i-s* (*s* being dropped as often in Latin). Or it may be supposed that the *-i-* was added, upon analogy of the pronominal declension, after the loss of final *s*.

In the *o*-declension we get indications that *o-es* (*-ēs* added to the stem *o-*) was the earliest form. The various forms

¹ Ritschl wishes to restore the form in *-as* in Plaut. Trin. II. iv. 138 (to avoid hiatus):—

Nam fulguritae sunt alternas arbores.

actually found, which lead to this inference, may be thus arranged¹ :—

a. Oldest forms : 1. *Fesceninoe, pilumnoe, poploe*, (Carm. Sal.); stem retained in full, and therefore probably the oldest, -s only having dropped.

2. *plourumē* (Epit. L. Scipio, see Appendix I. i. 2) a contraction from *oe*, but connected with the later forms in *ei, i*.

b. Forms retaining -s (-es, -eis, -is) e.g. *modies, ques* (S. C. de Bacch. see Appendix I. ii.), *eis, libereis, magistris, hisce* (in Ter. Eun. 269). These forms do not appear in inscriptions earlier than 190 B. C., and remain for about a century. To explain the presence in these later forms of the final -s, which the earlier forms had lost, Corssen supposes a transition (by analogy) to the forms of the *consonant* (i-) declension : but it seems at least as natural to suppose that in the early inscriptions we see the result of a tendency to drop final consonants, which was artificially corrected during the second century B. C. (when we know that the *literati* of Rome took great pains to establish a correct standard for their language), but finally prevailed; pronunciation, as usual, obtaining the victory over etymological considerations in fixing orthography.

c. The classical form in -i.

We therefore may trace the stages of change in these forms thus :—

a- stems ; a-es, ās, a-i(s), ae.

o- stems ; o-es, ē(s), ei, i.

eis,

is,

[In Sanskrit, all masc. and fem. stems form nom. plur. in -as before which *ī* and *ū* are raised ; *vāk'-ās* (*vocēs*), *bhārant-as* (*φῑεπορ-εs*), *sivās* (*siva + as*), *āvaj-as* (from *avi-s*).]

Nominative Dual (Greek) :—

Originally -sās, a lengthened form of nom. plur. (as *ī* nom. dual neuter, of *ī* nom. plur. neuter ; and *bhyām* dat. abl. instr. dual). -sās became -ās ; but in all Indo-European

¹ See Wordsworth's 'Fragments,' etc. ; Introd. ix. 9.

languages it has been further weakened: in Sanskrit to *āu* (in feminine *ā-* stems to *ē*); in Greek to *ε*, which appears in the consonant declension, but in the vowel declension coalesces with the stem vowel, *ἵππω*=*ἵππο-ε*, *χώρᾱ*=*χώρα-ε*.

In Latin *duo* (Sanskrit *dvāu*) and *ambo* (Sanskrit *ubhāu*, Greek *ἄμφω*) are the only dual forms.

Accus. Sing.: *Accusative Singular* :—
In Greek;

General type; *-am* for consonant, *-m* for vowel-stems.

In Greek, *-m* becomes *-ν* by the euphonic laws of the language: and with consonantal stems *-av* appears only as *-a* added to the stem, *λάμπαδ-α*, *ἥρω-α*¹. Vowel stems retain *-ν*, (*ἵππο-ν*, *φύγη-ν*). Stems in *ι- ν-* and diphthongs *av-*, *ov-* generally form the accus. sing. on analogy of vowel-stems in *-ν*; *πῶλι-ν*, *βότρυ-ν*, *βοῦ-ν*, *ναῦ-ν*. Stems in *ευ-* however are generally treated as consonant stems (*ν* becoming *φ*), thus *βασιλέ-α*=*βασιλέφ-α* (*βασιλευ-*): and the same is not unfrequently the case with other diphthongal and *ι-* and *ν-* stems. Thus we have the Homeric *νῆ-α* (*νῆφ-α*) beside *ναῦ-ν*; *εὐρέ-α*=*εὐρέφ-α* (*ν-* of stem raised to *ευ-*, *εφ-*) beside *εὐρύ-ν*, and *ῥόφρυ-α*: and in the other case-endings of *βοῦς*, *βοῦ* is treated as a consonant stem (*βοφ*), *βο-ός*=*βοφ-ός* (Latin *bov-is*). So too *πόλη-α*=*πόλεφ-α* (*πόλι-ς*) beside *πῶλι-ν*.

The *neuter* accus. in consonantal stems is merely the stem subject to euphonic laws of the Greek language: e.g. *τέρας* (*τερατ-*), *μέλι* (*μελιτ-*), *φέρων* (*φεροντ-*), *γλυκυ-*: in vowel stems it ends in *-ν*.

In Latin.

In Latin, *-m* is the invariable ending with masc. and fem. stems. The *-em* of consonantal declension is said not to represent I. E. *-am*, but *i-m*: i. e. the stem lengthened by *-i*, which then became *-e* before *m*, in both stems thus lengthened and original *i-* stems, with a few exceptions among the latter². It is no doubt desirable to regard these few accusative forms

¹ This *α* is, however, regarded by some as a 'connecting vowel' between stem and termination, analogous to *ο* in *λέγ-ο-μεν*. See Curtius' 'Elucidations,' pp. 108, 109, English translation.

² The following nouns form accus. in *-im*, and ablat. in *-i*:—

Always—buris, tussis, sitis, vis, Tiberis, etc.

Generally—febris, pelvis, pulvis, restis, securis, turris.

Occasionally—clavis, navis, sementis.

in *-im* among the mass of forms in *-em* as survivals of a more primitive form; and this is in harmony with the usual course of vowel degeneration in Latin (above, p. 53) in which *e* is the lowest point. It might, however, be maintained that *-em* as seen in *pedit-em*, *equit-em* at first represented *-ām* (*e* being a regular variety of original *a*): and that this *-em* coalesced with the final vowel of *i-* stems into *-īm* or *-ēm* (*i-em*), *-im* being the earlier form; and that finally the analogy of this *īm* or *ēm* caused the *-em* of purely consonantal stems to be regarded as a long syllable, upon the erroneous inference that *-ēm* was exactly the same in all words which exhibited it. This view is not less consistent with the observed facts of languages, and obviates the difficulty which cannot but be felt in the theory of a different structure for one of three words so obviously parallel as Sanskrit *vāk-am*, Old Bactrian *vāk-em*, Latin *voc-em*. This Old Bactrian accus. in *-em* of consonantal stems seems to furnish a clear link between Sanskrit *-am* and Latin *-em*, e.g. *barent-em*, cp. with Sanskrit *bhārant-am*, Latin *ferent-em*.

To the vowel stems in *-a (-o) -m* was added; *bonum (bono-m)*, *musa-m*. *-m* as we have seen (chap. iv. p. 69) was weakly sounded in pronunciation, and is accordingly omitted on some old inscriptions.

Accusative Plural:—

General type, *ns*, i.e. addition of *s* to termination of accus. sing. *m*, which by assimilation to the dental sibilant *s* becomes *n*. This *-ns* is retained only by Gothic, the euphonic laws of which did not forbid such a combination at the end of a word, e.g. *gastins* (stem *gasti*), *sununs* (*sunu-*): but there are traces of it in both Greek and Latin, and also in Sanskrit and Zend.

Greek accus. plur.: formed by addition of *s* to acc. sing., but *-ns* only retained in the Argive and Cretan dialects, e.g. *τὸνς*, *= τοὺς*, *παιγευτὰνς* *= πρεσβευτάς*. Elsewhere, in the vowel declension, *ν* disappears, the vowel being usually raised in compensation, e.g. *ἵππο-νς*, *ἵππους* (Doric *ἵππωνς*, like Latin *-ōs*); *χώρανς*, *χώρας*. In Lesbian *-ονς* and *-ανς* became *-οις*, *-αις*: thus *κάλας*, *= κάλας*, as in Pindar we have *φιλήσαις* *= φιλήσωνς* *= φιλήσαντ-ς*,

Accus. 1 plur. Attic $\phi\alpha\lambda\acute{\eta}\sigma\alpha\varsigma$. In consonant stems $-s$ follows $-a$ of acc. sing. making $-as$: but in t - and v - stems there is variety of form; thus beside $\pi\acute{o}\lambda\iota-as$ and $\pi\acute{o}\lambda\eta-as$ we have $\pi\acute{o}\lambda\iota\varsigma=\pi\acute{o}\lambda\iota\omega-s$. $\pi\acute{o}\lambda\epsilon\iota\varsigma$, the ordinary accusative, is perhaps best taken as $=\pi\acute{o}\lambda\epsilon\gamma-as$ (see above on nom. plur., p. 105): but it might also represent $\pi\acute{o}\lambda\iota\omega-s$, and be $=\pi\acute{o}\lambda\iota\varsigma$. With neuters, a is added to the stem.

In Latin. *Latin accus. plur.* of masc. and fem. stems always in $-s$, with long vowel preceding by compensation for the loss of $-m$; thus $-\bar{a}s=-am-s$, $-\bar{o}s=-om-s$; $\bar{e}s$ ($\bar{i}s$)= ems (ims), $-\bar{u}s=-um-s$. To neuter stems $-a$ is added, *corpora=corpos-a*.

[In Sanskrit, traces of the termination $-ns$ are found: but in vowel-stems usually either n or s disappears and the vowel is raised, e.g. $\acute{a}\varsigma\nu\alpha-s$ (*equus*), acc. plur. $\acute{a}\varsigma\nu\bar{\alpha}n$; $\acute{a}\varsigma\nu\bar{\alpha}$ (*equa*), acc. plur. $\acute{a}\varsigma\nu\bar{\alpha}s$. So $\acute{a}\nu\bar{i}-n$ (masc.), $\acute{a}\nu\bar{i}s$ (fem.) from stem avi . To masc. and fem. consonant stems, and monosyllabic vowel stems, $-as$ is added, $\nu\acute{a}\acute{k}-as$, $\acute{a}\varsigma\mu\alpha\eta-as$, $\eta\acute{\alpha}\nu-as$ (*nau*).]

Accus. Dual. The *Accusative Dual* in Greek (as also in Sanskrit masc. and fem.) is the same as noun. dual. In Latin *duo*, *ambo* have also a form *duos*, *ambos*, on analogy of plural, and in fem. only this form (*duas*, *ambas*).

Vocative Singular :—

Voc. Sing.: This, it has been already said (p. 98), is in Indo-European languages no 'case,' but the mere stem used as an interjection.

In Greek; In Greek guttural and labial stems, the nom. is used as voc. (except $\gamma\acute{\nu}\nu\alpha\iota=\gamma\eta\nu\alpha\iota$): but in dental stems the mere stem is used, subject to euphonic laws, e.g. $\pi\alpha\acute{\iota}$ ($\pi\alpha\iota\delta$ -), $\acute{\alpha}\nu\alpha$ ($\acute{\alpha}\nu\alpha\kappa\tau$ -), $\gamma\acute{\epsilon}\rho\omicron\nu$ ($\gamma\epsilon\rho\omicron\nu\tau$ -). $\pi\acute{o}\upsilon\varsigma$ however (stem $\pi\acute{o}\delta$ -) and the nom. sing. of participles in $-as$, $-\epsilon\iota\varsigma$, $-\omicron\upsilon\varsigma$, $-\omega\nu$ (stems in $-\nu\tau$) are used as vocative. The voc. in $-\epsilon$ of o - stems is the stem with o sunk to ϵ : $\theta\epsilon\delta\varsigma$ however (as *Deus*) is generally used for voc. (though in Matt. xxvii. 46 we have $\Theta\epsilon\acute{\epsilon}\mu\omicron\upsilon$); so $\phi\acute{\iota}\lambda\omicron\varsigma$ (Hom. Od. iii. 375) and $\omicron\iota\tau\omicron\varsigma$. The voc. termination $-\omicron\iota$ of $\pi\epsilon\iota\theta\omega$, $\alpha\iota\delta\acute{\alpha}-s$, etc., is anomalous; it appears however to stand to nom. sing. in $-\omega$ as Sanskrit voc. of fem. \bar{a} stems (e.g. $\acute{a}\varsigma\nu\bar{e}$) stands to the nominative: for $\bar{e}=a\bar{i}$.

In Latin. In Latin the nom. sing. is used for vocative, except in masculine stems in o -, where the stem with $-o$ changed to \bar{e}

is used. In *puer* (for *puer-us*) the abbreviated form of nom. is also voc. : but *puere* is found in Plautus.

The *Vocative Dual* and *Plural* in Sanskrit and Greek, and the *Vocative Plural* in Latin are the same as the respective nominatives.

Genitive Singular :—

There appear to have been two forms of Indo-European Gen. Sing. : suffixes for the genitive case, viz. for *a-* stems (*a-*, *o-*), *sya* ; Indo-European Forms. for all others, *-as* or *-s*. This *-sya* appears as an adjectival suffix in e.g. *δημό-σιω-s*, the stem of which *δημοσιω-* is the origin of the Homeric gen. *δήμοιο* (*σ* falling out between two vowels). It can also be shown in Sanskrit and other languages that the termination of the genitive is identical with derivative suffixes, by which substantives are changed into adjectives¹; a fact which illustrates the true grammatical force of the case, and shows the accuracy of the Greek term *γενική πτῶσις* (general or predicative case—referring to a *γένος* or class), which the Romans spoil by translating *genitivus* 'case of origin or birth' (*γεννητική*). The use of Latin *cuius* both as a genitive case and an adjective is another illustration in point.

The other termination *-as* cannot be so clearly traced as an adjectival suffix ; but there are indications of such connection².

Greek Gen. Sing. :—

In consonantal stems *-os* (= *-as*) is added to the stem : *πόδ-ος*, In Greek. *γένους* (= *γένεος* = *γένεσ-ος*). *-os* is sometimes raised to *-ως* (*πόλε-ως*, *βασιλέ-ως*), with which may be compared the long vowel of the closely allied ablative case, *δή-ως*, etc. (see below, p. 116). In diphthongal stems *υ* has generally passed into *φ* (consonantal) and thus disappeared, *βοφ-ός* (*βου-*), *βασιλέφ-ως* (*βασιλευ-*). In *υ-* stems forms like *γουνός* (*γουν-*), *δουρός* (*δουρ-*) are transpositions from *γουν-ός*, *δουρ-ός* : while *γλυκέ-ος*, *ἄστε-ος*, etc., show that the stem vowel *υ* has been raised to *ευ* (*εφ*) and become diphthongal ; thus *γλυκέος* = *γλυκέφ-ος* is analogous to *βασιλέ-ως* =

¹ See a note to Max Müller's 'Lectures,' Series I. Lecture iii. near the end (pp. 103, 104, 1st ed.).

² See Ferrar's 'Comparative Grammar,' pp. 212, 213.

Gen. Sing.,
Greek.

βασιλέ^ς-os. Similarly πόλε-ωs and Homeric πόλη-os=πόλε^ς-os; the stem vowel remaining unaltered in Ionic πόλι-os.

Fem. *a*- stems have -as or -s added to the stem vowel, σοφί^{ας}, φύγ^{ης}. Masc. and neuter stems in *o*- originally formed gen. by addition of -σ^{γο}, whence the Epic gen. in -οιο; ἄγροιο=ἄγρο-σγο by omission of σ¹. The Attic gen. in -ου (Aeolic -ω) arises by contraction from -οο=-οσ^ω, with first σ and then ι omitted.

From masc. stems in *a*- we find three forms in Homer. (1) -ᾱο; (2) -εω (Ἀτρεΐδεω), in which the quantity of the two syllables -ᾱο is transposed, and *a* weakened to ε (-εω then becomes one syllable by synizesis and the accent remains unaltered in spite of ω in final syllable, as with πόλεωs, etc.); (3) -ω by contraction from -αο, Ἑρμείω, βορέω (Ἑρμεία-s, βορέα-s). Aeolic has -α (ο being lost), Αἰδᾶ, Κρονίδᾶ. The earliest form in -αο is probably =*a*-σγο, αγο; but Curtius, in his work on Greek Etymology, derives -ᾱο from ᾱοs=*dyas*, the gen. sing. termination of Sanskrit fem. stems in -ā, which change the stem vowel -ā into *ai* (*ay*) before -as, e.g. ἄρ^νᾱ (equa), gen. ἄρ^νᾱ^ςas; but ἄρ^να-s (equus), gen. ἄρ^να-sya. The Attic gen. in -ου is a contraction from -αο, πολίτου=πολίτα-ο.

Latin Genitive Singular :—

In Latin :
Consonant
stems.

The suffix -as appears in Latin as -os, -us, -es, -is.

(1) -os, *senatu-os* in S. C. de Bacch. (Appendix I. ii.).

(2) -us, on inscriptions up to the end of the seventh century, A.U.C. (rarely after 100 B.C.), *Cererus*, *Caesarus*, *hominus*, *Venerus*, etc. From this in *u*- stems arose the contraction *ūs* = *uus* (*domuus* inscr.) It also survives in *alius*, *illius*, etc.

(3) -es, on inscriptions before the Second Punic War, *Salutes*, *Apolones* : and again in late Latin, *Caesares*, *campestres*, etc.

(4) -is, the ordinary gen. sing. of consonant stems proper. The *is* of *i*- stems (*ovis*) was perhaps originally *īs*=*i-os* : thus *ovis*=*ovi-os*, as we find a form *alis*=*alios* (*alius*). See below, chap. vii. p. 145. The tendency to shorten final syllables, aided

¹ In the Thessalian dialect, the gen. sing. of *o* stems often ended in -οι, about which there are two views: (1) that it=-οιο, *minus* the final *o* (Ahrens, 'De Dialectis Aeolicis,' p. 221; 'De Dialecto Dorica,' p. 528 sqq.); (2) that it is an old locative used in a genitive signification.

by the tendency to see analogy between two similar terminations *ovīs*, *nominīs*, would sufficiently account for the subsequently uniform *-īs* of both consonant proper and *i*-stems. *-īs* is obviously parallel to Greek *-os*, cp. *genus*, *gener-is* with *γένος*, *γένεσ-ος* (*γένεος*, *γένους*). Gen. Sing.
Latin.

The *u*-stems exhibit the greatest variety of gen. sing. inflection: thus we find (1) *-uos* as above; (2) *-uus*, as above (in some cases however *-uus* may be due to a method of denoting the length of a vowel by doubling it, introduced by the tragic poet Accius, and prevalent on inscriptions from about 130-75 B.C.; found also regularly in MSS. of Pliny the elder, where *-uus* represents *-ūs* of gen. sing. nom. and acc. plur. of *u*-stems); (3) *-uis*, retained in *su-is*, *gru-is* (which then, by analogy, are declined like *i*-stems), and used by several writers up to temp. Cicero, e.g. *senatuis*, *domuis*, etc., quoted by Gellius; *quaestuis* (Ter. Hec. 735), *fructuis*, *victuis*, etc. (Varro); (4) *-i*, perhaps an analogy of *-o* stems (from similarity of nom. sing. *-us*), or possibly from some confusion with the past part. in *-tus*, most of the examples being from words where *t* precedes the stem vowel *u*-, e.g. *adventi*, *quaesti*, *ornati* (all in Terence), *senati*, *fructi*, etc. (see Roby's Latin Grammar, vol. i. § 399); (5) the ordinary termination *-ūs*, by contraction from *-uus* or *-uis*. u-stems.

In *o*-stems the gen. ends in *-i* or *-ei* (inscriptions from Punic War—Augustus). Three explanations of this termination are suggested:— Vowel stems.
Gen. in *-i*.

(1) That it is a *locative*, which has supplanted the old genitive. This would account for, and has probably been suggested by, the apparently abnormal grammatical usages of *Romae*, *Tarenti* in a locative sense; these, however, may be otherwise explained (see below, p. 119).

(2) That like Greek *-ov*, it arises from the termination *-sya*, i.e. *agri*=*agroī*=*agro(s)ī(o)*. This gives at first sight a plausible parallel between the Greek and Latin *o*-declensions; but the only real parallel to this supposed Latin abbreviation of *-syo* is the Thessalian gen. in *-oi* mentioned above (p. 112), and Bopp truly points out that '*lupi* and *lupae* from *lupai* rest on the same principle; and if *lupi* proceeds from *λῦκοι*, whence can

Latin Gen. *lupai* be derived, as the corresponding Greek feminine nowhere exhibits an *-aio* or *-ηιο*? (Comp. Grammar, § 189).

(3) That the original termination was *o-is* (i. e. *-as* added to the stem), the final *-s* being lost, and *-oi* contracted to *-i*. This explanation is made more probable by traces of a final *-s* in the other Italian dialects: e. g. Oscan *suveis* (*sui*), *Pumpai-aneis* (*Pompeiani*); Umbrian *puples* (*populi*), *katles* (*catuli*), etc., which lead us to infer an Italic genitive in *-ois*, whence Oscan *-eis*, Umbrian *-es*, Latin *-i*. The analogy of fem. *a-* stems will also bear out this conclusion. For them we have in *paterfamilias* and the old genitives *terrās* (Naev.), *vids* (Enn.), etc. distinct evidence of a termination *-ds*, the readiest solution for which is that it is a contraction for *-a-is* (*is=as* added to the stem), a termination found in one old inscription in *Prosepnais=Proserpinae*, and on vulgar inscriptions (not before seventh century A. U. C.) appearing as *-aes* or *-æes* (chiefly in proper names of freedwomen and slaves *Juliaes*, *Anniaes*, *Vernaes*, etc.). The other form in *-āi* (Lucr. and Verg.) or *-ae* may then be traced to the same *-ais* by loss of final *-s*, and corresponds exactly to *agri=agroī* from *agro-is*. This explanation, which reconciles the two forms *-as* and *-ai* (*ae*), and harmonises the declension of both masc. and fem. *a-* stems (*o-* and *a-*) appears upon the whole the simplest and most satisfactory.

Gen. Sing. of *-e* stems. Of stems in *-e* four forms of gen. sing. are found, viz. *-ēs* (*rabies*, Lucr. iv. 1083), *-ei*, *-ē* (*fide*, Hor. Od. iii. 7. 4; *die*, Verg. G. i. 208) and *-i* (v. l. in Aen. i. 636, *dii*, and elsewhere; see Roby, Latin Grammar, i. § 357). Of these *-ē* and *-ī* are contractions of *-ei*: *-ei* and *-es* are phonetic varieties of *-ai* and *-as* of the *a-* stems, and the same explanation covers both.

Genitive Plural:—

Gen. Plur.: Indo-European type. The original Indo-European type is inferred to be *-as-ams*, i. e. *-as* (gen. sing.) + *-am* (pronominal element found in *bhy-am* etc. see p. 120) + *-s* (plural sign). This *-asams* would gradually sink to *-asām*, *-sām*, *-ām*; of which forms, *-ām*=Greek *-ω*, Latin *-um*; *-sām*=Latin *-rum* of *a-* and *o-* stems; while the quantity of *o* before *-rum* (*equōrum* from stem *equō*), and

of Sanskrit *têshâm* (*horum*) from stem *ta* (*hic*) perhaps points Gen. Plur. to *-asam*, whose initial vowel coalescing with the stem vowel would make a long syllable. [In Sanskrit only the pronominal declension retains this trace of the longer form *-sam* or *-asam*: with nouns, *-ām* is added direct to consonant stems, e.g. *vāk'-ām* (*voc-um*), while vowel stems are increased by *n* before the addition of *-ām*, e.g. *āçvā-n-ām* (*āçva-s*), *āvī-n-ām* (*avi-*).]

Greek Genitive Plural, *-ων* = *-ām* is added to the stem. The In Greek; *o-* of *o-* stems coalesces with it, *λύκων* = *λυκό-ων*: and the same is apparently the case with *a-* stems, viz. *χωρῶν* = *χωρά-ων*. The fem. gen. plur., however, is *always* accented with circumflex, the masc. only when the accent of nom. sing. is oxytone: and it has been supposed that this difference points to an original difference in formation, the *ā-* stems having the suffix *-σων* (*-sām*); so that *χωρῶν* = *χωράσων*. This is to some extent borne out by the Homeric form *ā-ων* of such gen. plur., and the comparison of e.g. *τά-ων* gen. plur. fem. with Sanskrit *tā-sām* (*harum*) from stem *ta*. *σ* would of course naturally fall out between two vowels. *τά-ων*, *is-ta-rum* and *tā-sām* would thus be parallel forms.

Latin Genitive Plural. Formed by adding *-um* or *-om* (found In Latin. in *u-* stems, and in *o-* stems after *u* or *v*) to consonantal *o-* *i-* or *u-* stems: e.g. *fulmin-um*, *avi-um*, *magistratuom*, *fructuum*; and *-uum* sometimes contracted into *-um*, *passum* (Lucilius, Martial), *currum* (Verg. Aen. vi. 653). Many consonantal stems are increased by *-i* on analogy of the *-i* stems, e.g. *merc-i-um*, *penat-i-um*, *amant-i-um* (also *amant-um*, which is not a contraction of, but an earlier form than that in *-ium*): but this addition is very rare with stems ending in *-n*, *-r*, *-s* (except *vir-i-um*, *complur-i-um*). Some consonantal stems follow analogy of *-u* stems, e.g. *alitu-um* (Lucr. and Verg.) beside *aliti-um*.

o- stems (masc. and neut.) add either *-um* (*-om*) or *-orum* (*-asam*) to the stem. The first is not, as sometimes regarded, a contraction of the longer form: it is in fact probably the older, being the only one known to the Umbrian and Oscan dialects, occurring exclusively on early coins of fifth century

Gen. Plur.
Latin.

A. U. C., and most frequently on inscriptions of an early date (*Romanom*, *sovom*=*suorum*, *divom*, etc.). The other form in *-ōrum* gradually superseded it, and occurs commonly on inscriptions of the second century B.C. and later: and in and after Cicero's time¹, the form in *-um* was found only in certain words: e.g. *nummum*, *denarium*, etc.; *duum*, *ducentum* and other numerals, especially distributive; *deum*, *divum*, *virum* and compounds, *Italum*, etc.; *nostrum* and *vestrum* (see below, p. 136). *a*-stems form gen. plur. in *-ārum*; but *-um* is formed (1) from masc. patronymics in *-des* (*Aeneadum*, etc.), (2) compounds of *gigno* and *colo* (*terrigenum*, *caelicolum*)—both in dactylic poetry only; (3) from the fem. stems *amphora*, *drachma* (but these are probably borrowed from Greek). *-e* stems have the form in *-rum* (*dierum*, etc.).

The forms *boverum*, *nucerum*, *regerum*, *lapiderum*, noticed by Varro, seem (if genuine) to point to the occurrence of the longer form in consonantal stems with *e=i* as a connecting vowel; *i* being suffixed to the stem as with the other form in *-um* where the termination *-ium* is formed from a purely consonantal stem. Another explanation supposes an addition to the stem of *-er*, because in some words an *-r* is found in gen. sing. (*acipenseris*, *cucumeris*, etc.), and is therefore perhaps not peculiar to the plural number in the words in question.

The *Genitive Dual* agrees in form with the *Dative Dual* (p. 123).

Ablative Singular:—

Ablat. Sing.,
in what lan-
guages re-
tained.

The *Ablative* is most closely allied in meaning to the *Genitive*, and has been retained as a distinct form in Declension only by Old Persian (*Zend*) and Latin. Sanskrit preserves it in masc. and neut. *a*-stems, Greek in adverbs in *-ως*, where *s=t* of Sanskrit ablative; this *-t* probably representing an original *-d* retained in Old Latin, and also in *Zend*.

Thus *ὁμῶς*=*ὁμοῦ*=*samat*, abl. of *sama*, 'similar': *πῶς* (Ionic *κῶς*)=I. E. *kvat*, abl. of *kva*. The Sanskrit *a*-stems (masc. and neut.) preserve the final *-t* (*sivāt*, *āçvāt*): in all others *-t* has

¹ See Cicero, 'Orator,' xlv. § 155; and compare Roby's 'Latin Grammar,' § 365 (vol. i. p. 124).

become *-s*, as in Greek, and the ablative is therefore identical Abl. t. Sing. in form with the genitive in *-as*; such merging being prevented in the *a-* stems by the retention of the longer genitive form in *-sya*.

Latin Ablative Singular:—

Here the original *-d* (as in Zend *d*—written *t* by Schleicher) In Latin. has been retained; but is only found in Old Latin and Oscan, being lost in Classical Latin and Umbrian. Thus we find on inscriptions *senatud*, *praidad*; *gnaivod* (Ep. Scip. Appendix I. i. 1); *sententiad*, *couentionid*, and the adverbs *suprad*, *extrad*, *facilumed* (S. C. de Bacch., Appendix I. ii.). This form *facilumed*, with e. g. Oscan *amprufi-d* (= *improbe*), shows that the ordinary adverbial termination in *-e* is an ablative in *-ēd*, from adjectives in *-us*, *-a*, *-um*, and thus distinguished in form from the masc. and fem. ablatives in *-od*, *-ad* (which are also sometimes adverbial, as in *cito(d)*, *supra(d)*, *contra(d)*, etc.). The original quantity of the adverbial ablative in *-ē(d)* is generally retained though shortened in some words in constant use, e. g. *benē*, *malē*.

In *o-*, *a-*, *e-*, and *u-* stems, the long vowel of the ablative *-ō*, *-ā*, *-ē*, *-ū* was originally followed by the characteristic *-d*, which fell off at an early period. The latest inscription on which it occurs is the S. C. de Bacch (186 B. C.), a formal legal document with much in its orthography that was probably archaic at the time; and it is by no means found constantly even in the earliest inscriptions. Plautus seems to have used it or not as he chose; and forms like *-med*, *-ted*, *-sed* are freely restored by his modern editors *metri gratia*¹.

In consonant and *i-* stems we find both *-ī* and *-ē* as abl. terminations. In classical Latin, most adjectives in *-is* have *-i* (thereby securing a distinction from the neut. sing. in *-ē*); most substantives and participles *-ē*. Some substantives however regularly have *-i* (see above, p. 108, note); in others which usually have *-ē*, *-i* is also found, especially in Lucretius (see Munro on i. 978). In late and vulgar Latin all ablatives in

¹ *Ritschl*, 'Neue Plautin.' Excurs. i. 106.

Ablat. Sing.
Latin.

-i are weakened to *-ē*. The history of the forms is as follows. The original form was probably *-īd* (I. E. *-āt*), seen e.g. in *murīd* (Columna Rostrata, B. C. 260), *couentionīd* (S. C. de Bacch.), and traceable in *ante-hac* (the non-elision of which is perhaps due to its original form *antīd-hac*). This *-īd* became *-ēd* and then *-ē*, which quantity is found on the Epit. of Scipio Barbatus (Appendix I) in a Saturnian verse, *Gnaivod | patrē | prognā | tus || . . .*, and Plaut. Capt. 807 (trochaic), *Tum pistores scrofigasci qui alunt furfurē sues*. From 150 B. C. onwards *-ē* becomes most common. *-ei* and *-ī* are also found: e.g. on Ep. Scip. 4 (Appendix I. i.), *virtutei*, ablat., and *-ī* in consonantal stems, *luci* Plaut. Aul. 741; Ter. Ad. 841; Lucr. iv. 235; Cic. Phil. xii. 25. The tendency of pronunciation to obscure and weaken all final syllables brought all these forms at last down to the weakest form *-ē* (see above, p. 53).

The Ablative Plural agrees in form with the Dative Plural (see p. 122).

Locative Singular:—

Loc. Sing.,
Indo-Euro-
pean type.

The general type is *-i*, for Indo-European noun-stems; but pronominal stems have *-in*, which is the older form, and probably connected with a pronominal root *-am*, weakened first to *-an* then to *-in*. The locative termination of fem. stems in Sanskrit *-ām* seems to point to the oldest form of the suffix. The locative is retained as an independent case in Sanskrit, Zend, Slavonic, Lithuanian; in Greek, Latin, Teutonic, and Keltic, it has coalesced with the dative (its functions being also shared with gen. and abl. in Greek and Latin).

In Greek;

In Greek, the dative singular in *-i* is properly a locative form *ποδ-ι*, *γέροντ-ι*, etc.: and the locative meaning is retained in such forms as *Μαραθῶνι*, *Σαλαμῖνι*, *νυκτὶ*, κ.τ.λ. The dative of *o-* and *a-* stems is a true dative (see below, p. 120): but side by side with it we find locative forms such as *οἴκοι (οἴκο- + ι) χαμαὶ (χαμα- + ι)*. This locative *-οι* of *o-* stems becomes in Aeolic *υι*—*τυιδε*, *μεσυί*; and in Doric *-ει*, e.g. *πεῖ (ποῖ)*, *τηρεῖ*, *τουτεῖ*, *τεῖδε*: this form in *-ει* being also found in Attic *ἀμαχεῖ*, *παροικεῖ*, *ἐκεῖ* (= *ἐ-κο-ι* from stem *κο-*). *ἄγχι* is perhaps locative (= *ἄγγει*) from

a stem $\acute{\alpha}\gamma\kappa\omicron-$, whence $\acute{\alpha}\gamma\chi\omicron\upsilon$: and $\acute{\alpha}\mu\epsilon\iota$ may be locative of a stem Loc. Sing. $\acute{\alpha}\iota\phi\omicron$ —Sanskrit $\acute{e}va$, Latin $aevo-$: $\mu\omicron\iota$, $\sigma\omicron\iota$ (Doric $\rho\omicron\iota$) are probably locatives: see below, p. 135.

In Latin there are but few traces of a distinct locative case; In Latin the locative, both in form and functions, having become merged in either the ablative or dative (? genitive) case. In consonant declension forms like *rurī*, *vesperī*, *herī* (= *hes-i* from *hes*, Greek $\chi\theta\acute{\epsilon}s$, cp. *hesternus*) many *may* be locatives, but are not distinguishable from dat. or abl. in \bar{i} .

From $o-$ stems *humī*, *bellī*, *focī*, *Corinthī*, etc. are perhaps locatives, but are assimilated in form to the dative (as in *illī*, *soli*) not the genitive. *Postri-die*, *quotidie*, etc., and in Old Latin *die quinti*, *die crastini*, seem to point to a locative form merged in the dative: and so *Romae*, *militiae* (*Roma-i*, *militia-i*) are perhaps originally locatives formed by adding i to the stem, but are now undistinguishable from the gen. or dat. *Perendie*, *jam* and the pronominal adverbs in *-im* (Appendix II, A.) are supposed to indicate the still older locative termination *-in*=*-am*.

[The locative terminations in Sanskrit are *-i* (consonant and In Sanskrit. diphthong stems), *-āu* (masc. stems in $i-$ and $u-$, the stem vowel disappearing), *-ām* (fem. stems in $\acute{a}-i-$ $u-$), *-ē* (= $a+i$ masc. and neut. stems in $a-$), and *-in* (only in pronominal declension).]

Locative Plural :—

From the forms of this case in the Asiatic branch of Indo- Loc. Plur. European languages (Sanskrit *-su*, *-shu*, and in the Vedas *susu*; Zend *shva*, *shū*, *-shu*, *-hva*, *-hū*, *-hu* and Old Persian *-suvā*) an original type *sva-sa* (*sva* pronominal, and *sa* plural sign) is inferred by some philologists (Schleicher, Comp. § 256). However this may be, the Sanskrit *-su* evidently corresponds to the Greek $-\sigma\iota$ or $-\sigma\sigma\iota$ ($\sigma\phi\iota$) of the dative plural, which is thus, like the dat. sing. in $-i$, really locative. $-\sigma\iota$ or $-\sigma\sigma\iota$ are sometimes added direct to consonant stems, sometimes by a 'connecting vowel' ϵ : e. g. $\pi\omicron\sigma\sigma\iota$ (= $\pi\acute{o}\delta-\sigma\iota$), but also $\pi\acute{o}\delta-\epsilon-\sigma\sigma\iota$ (Epic.); $\kappa\upsilon\sigma\iota$ and $\kappa\acute{\upsilon}\nu-\epsilon-\sigma\sigma\iota$ ($\kappa\upsilon\nu-$); $\pi\omicron\lambda\iota-\epsilon-\sigma\sigma\iota$, $\pi\acute{o}\lambda\iota\sigma\iota$ and $\pi\acute{o}\lambda\epsilon\sigma\iota$ from $\pi\acute{o}\lambda\iota-$. $o-$ and $a-$ stems are lengthened by ι , $\acute{\iota}\pi\pi\omicron-\iota-\sigma\iota$, $\chi\acute{\omega}\rho\alpha-\iota-\sigma\iota$: but some fem. locatives are found without such increase, e. g. $\theta\acute{\upsilon}\rho\alpha\sigma\iota$,

Loc. Plur. Ἀθήνησι. The Epic forms -ῆσι, -ῆς are from lengthening of *a* in -αῖσι, -αῖς.

In *Latin*, the locative plural is merged in the form of dat. and abl. plur. The dat. abl. in *-is*, however, of *o-* and *a-* stems is very possibly a locative form (see below, p. 122).

No *Locative Dual* is found in Greek or Latin : but Sanskrit has a form ending in *-ôś*.

Dative Singular :—

Dat. Sing., General type. General type *-ai*, Sanskrit -ê, Greek -φι (= *o-ai*), φ (= *a+ai*), Latin *-i*. Different views are held as to the origin of this termination, viz. :—

(1) That it is a strengthening of the locative *-i*.

(2) That it represents the preposition *abhi*, *bh* being lost, as in Sanskrit *sivais*, instrum. plur. of *siva* (see below, p. 124), and as φ is lost in Doric ἐμὶν and Epic τεῖν (= *ma-bhyam*, *tu-bhyam*). These pronominal datives (cp. Latin *tibi*, *sibi*, etc.) give *bh* : and as pronouns generally preserve more archaic forms than nouns, they perhaps point to the original form of the dative. The use of the preposition *abhi*, 'towards,' to form the dative would be analogous to the Latin idiom of *ad carnificem dabo*, etc. found in Plautus.

In Greek ; In Greek, *a-* stems (*a-*, *η-*, *ο-*) alone have the true dative termination, οἴκῳ = οἴκο- + *oi*, θεᾷ = *thea* + *ai* : in all others the locative in *i* is used. Infinitives in *-μεναι*, *-εναι*, *-ναι*, *-αι* are probably datives of consonantal stems (see below, chap. viii).

In Latin. In Latin, the dative in *-i* of consonantal and *i-* and *u-* stems perhaps represents Indo-European *-ai*. Inscriptions of fifth century A. U. C. give *-ê*, which is analogous to Sanskrit -ê = *-ai* : e.g. *Junone, matre, salute, Diove (Jovi)* : and this form appears to have been retained in some technical phrases, e.g. *solvendo aere alieno, jure dicundo* in Livy and Suetonius. Umbrian has *-e* : *patre* = Sanskrit *pitṛê* (*patri*). Later inscriptions (sixth century A. U. C. to time of Augustus) give *-ei* : e.g. *quoiei* (Ep. Scip. 4, Appendix I. i.) *Apolenei, Diovei, Hercolei*, etc. Oscan has *-ei* ; *paterei, Diuvei*, etc. Finally *-ei* became *-i*, which does not appear on inscriptions before temp. Gracchi. Corssen considers *-ei* to be the original dative suffix and *-i* the locative :

Schleicher (Comp. § 254) regards *-i*, *-e*, *-ei* as varieties of the same form, but locative. It is certainly more reasonable to regard the three forms as identical: and the history of Latin orthography will supply many analogies to this variety of spelling (e. g. *ni*, *ne*, *nei*: cp. Ritschl's view of the relations of *ē*, *ei*, and *ī* quoted in Roby's Latin Grammar, vol. i. § 268). But the invariable quantity of dat. *-ī* is an objection to regarding it as locative, the characteristic of which, as we have seen, is *-i* (p. 118); the tendency of Latin phonetic change being not to lengthen short, but to shorten long terminations.

In *a*-, *e*-, *o*- stems the oldest forms appear to be *-ai*, *-ei*, *-oi* (*quoi*, *populoi*, traceable in *huic*=*hoic*). With such stems the first letter of the termination *-ai* united itself to the stem vowel, and the results *-ōi*, *-āi*, *-ēi* seem to have been sometimes pronounced as dissyllable; as is still the case with *e*- stems, where the full form is retained ¹.

In *o*- stems the final *-i* was dropped (*populo*=*populō-i*=*populo-i*:) just as in Greek (*ἵππω*=*ἵππω-ι*=*ἵππο-ι*, etc.), where however the traces of *i* remain in 'ι subscriptum.' In *a*- stems *i* survives in Classical Latin, *-ae*=*ai*: but dative forms like *Matuta*, *Tusco-lana*, etc. are parallel to Greek *θεῖα*=*θεῖαι*=*θεῖα-αἱ*, and Latin *populo*, in the loss of *-i*. In *e*- stems also a similar form in *-ē* is found: e. g. *diē*, Plaut.; *rē*, Trin. 635, 657: *fidē*, Aul. 659, Amph. 391; *faciē*, Lucilius, etc.: and a monosyllabic pronunciation *metri gratia* of *-ei* gives the intermediate stage. Compare the remark of Aulus Gellius (ix. 14), 'In casu dandi qui purissime locuti sunt, non "faciei" uti nunc dicitur sed "facie" dixerunt.'

Dative Plural:—

General type *bhyams*, i. e. *bhyam*, of dat. sing. (as seen in Sanskrit pronominal declension, p. 137) + plural sign *-s*. The Old Prussian *-mans* of dat. plur. is the natural representative, by the laws of phonetic change, of Indo-European *bhyams*, and therefore confirms the inference that this is the primitive form

¹ The dative termination *-ei* of the ordinary fifth declension seems to have been variously scanned as *ē-i*, *ēi*, and *ēi*; see for examples Roby, 'Latin Grammar,' § 306 (i. p. 122).

Dat. Plur. *-mus* in Lithuanian (*mumus, jumus=nobis, vobis*) points to the same form : for if the original had been Sanskrit *bhyas*, Lith. would have *-mas* ; but *u* is accounted for by the nasal *m*.

This case form appears in all Indo-European languages except Greek, which employs locative plur., as in sing. (see p. 119). In Sanskrit *-bhyams* becomes *-bhyas* (cp. acc. plur. *-as=am-s*, p. 109).

In Latin. In Latin, *-bhyas* became *-bios* or *-bius*, then *-bos*, *-bus* (for loss of *i* cp. *min-us=minius* and see also on p. 56) : and a

Dat. in *-bus*. parallel form appears in *no-bis*, earlier *nobeis*. This *-bus* is the regular termination for consonant, *i*-, and *u*- stems, and is also found in *ambo-bus*, *duo-bus* (*o*- stems) ; *deabus*, *filiabus*, *libertabus* on inscriptions, and *amba-bus*, *duabus*, classical (*a*- stems) ; *diebus*, *rebus*, classical (*e*- stems). *-i* is usually added before it to consonant stems (*nomin-i-bus*, etc.) ; but in *bo-bus*, *bu-bus=bov-bus* we have possibly the remnant of an earlier formation by adding *-bus* direct to the stem. In *i*- stems *i* is found as *e* in Old Latin, e. g. *tempestatebus*, *navebos* : and in *u*- stems, *u* sometimes becomes *i*, as *fructibus*.

Dat. in *-is*. The dat. (also abl.) plur. of *o*- and *a*- stems (with the exceptions above given) ends always in *-is*, of which form there are two explanations :—(1) that it is dative, arising from *-fios* = *-bhyas*, which then becomes *-hios* (cp. *mi-hei* beside *ti-bei*) and then by contraction *-is* (see Schleicher, Comp. § 261, and on *f=bh* above, p. 66). This however is very hypothetical ; and it seems simpler to believe (2) that *-is* is a *locative* termination ; so that *musis*, *dominis*=*musais*, *dominois*=*musaisi*, *dominoisi*, and correspond exactly to Greek *ῥάπαισι*, *ἀγροισι* (see above, p. 119). That *-ois*, *-ais* were the original terminations of the dat. plur. is shown by the old forms *oloes* (*illis*), *privicloes* (*priviculis*) noticed by Festus, and by the other Italian dialects. Thus an old inscription (possibly of Latin origin ?) gives *suois*, *cnatois* (*suis*, *gnatis*). Oscan has *Neulanuis*, *legatuis*, *diumpais* (*Nolanis*, *legatis*, *lymphis*) ; and in Umbrian the dat. plur. of *o*- and *a*- stems ends in *-eis*, *-es*, *-is* (later *-eir*, *-er*, *-ir*), and of *i*- stems in *-eis* *-es* (perhaps on analogy of *a*- and *o*- stems) ¹.

¹ See Ferrar's 'Comparative Grammar', p. 169.

Dative Dual :—

Indo-European *-bhyāms*, lengthened from *-bhyāms*. Sanskrit Dat. Dual. here drops the *-s*, and has *-bhyām*.

In Greek *-bhyāms* became something like *-φιν*, which became *-φιν* and finally, *-ιν* as in *ο-* stems *ἵππο-ιν* = *ἵππο-φιν*, *χώρα-ιν* = *χώρα-φιν*. All other stems follow the analogy of *ο-* stems, and thus *-ο-φιν*, *-οιν* is the usual termination throughout, e. g. *γενέοιν*, *γένοιν* = *γενέσ-ο-φιν*, *πατέροιν* = *πατέρ-ο-φιν*, *εὐρέοιν* = *εὐρέ-ο-φιν* (stem *εὐρυ-* with stem vowel raised). The Homeric forms *τοῖν*, *βλεφάροιν*, etc. (from stems *το-* *βλεφαρ-*) appear to have an *ι* added to the stem; so that *τοῖν* = *το-ι-φιν*. The same form is found in some consonantal stems, e. g. *ποδοῖν* = *ποδ-ο-ι-φιν*, *Σειρηνοῖν* = *Σειρην-ο-ι-φιν*, where *ο-*, and afterwards *ι-*, have been added to the original stem, each under the influence of analogy.

There is no trace of *-bhyāms* in Latin or any Italian dialect.

Instrumental Singular :—

There appear to have been two Indo-European forms, (1) *-ā*, ^{Instrumental Sing.} *-ā*, (2) *-bhi*: and it is suggested (Schleicher, Comp. § 258) that these originally corresponded to the twofold meaning of (a) *comitative* ('I went *with* him'), (b) '*instrumental*' proper ('I cut it *with* a knife'), which are united in the Latin ablative case, and in our preposition 'with.'

(1) *-ā* is found in Sanskrit (*वह-ā*, *अव-ā*): and in Greek possibly in the adverbial forms *ἄμα* (Doric *ἀμᾶ*), *διχὰ* (Doric *διχᾶ*), *ταχὰ*, *φῆ* (Il. i. 144, xiv. 499), *ἀλλαχῇ*, *πάντη* (Doric *πάντα*), *δῆ* = *δγα* = *γα* from pronominal stem *γα*, whence the locat. *jam* (see for 'parasitic *d*,' pp. 75, 76).

(2) *-bhi*, which does not appear in Sanskrit, is in Greek *-φι*, a termination common in Homer, and not to be confused with the supposed earlier form of the dative dual *-ιν* mentioned above. It is used as (a) *comitative* (*ἄμ' ἡοὶ φαινόμενῃφι*), (b) *instrumental* proper (*ἦφι βίηφι*, Od. xxi. 315, cp. Il. xvi. 734); but more often in a locative or ablative signification, by the easy transition from the notion of 'circumstances under which' or 'by which' to 'place at which' or 'from at which.' e. g. *ἐπ' ἐσχάροφιν*; or with *ἀπὸ*, *ἐξ*, *ἐκ πόντοφιν*, 'from on the sea,'

Instru-
mental Case.

(whence $-\phi\upsilon$ has sometimes been wrongly interpreted as a *genitive* termination.)

Latin offers no trace of either $-ā$ or $-bhi$.

Instrumental Plural :—

Indo-European $-bhis$, i. e. $bhi + s$, of plural. Sanskrit has $-bhis$ except in a - stems, where bh disappears ($ācvāis$) : the Vedas however show $ācve-bhis$.

In Greek the final s is lost after ν (see p. 68) and the form is therefore identical with the singular $-\phi\upsilon$, e. g. $\nu\alpha\upsilon\phi\upsilon$, Il. ii. 794 ; $\kappa\omicron\tau\upsilon\lambda\eta\delta\omicron\nu\phi\upsilon$, Od. v. 433, $\theta\epsilon\acute{o}\phi\upsilon$, etc.

Comparison of Adjectives :—

Comparison
of Adjec-
tives.

The declension of adjectives has been sufficiently explained under that of substantives : and there only remains the question of the formation of ‘degrees of comparison.’ This is really part of the composition of words, i. e. the formation of stems from roots : for comparative and superlative are formed by addition to stem of positive of particular suffixes, in no way different from other suffixes, and not confined to adjectives. But the wide and general use of particular suffixes for this purpose, and the order usually observed in grammars, make it convenient to consider them at this stage.

Comparative degree. Stem formed in Indo-European by suffix $-yant$ ($=yan-ta$) or $-tara$. These may be derived either from (1) *verbal*, or (2) *pronominal* roots. Those who derive from verbal roots connect $-yant$ with Indo-European $yā$, ‘to go,’ whence Sanskrit ya , Greek $ίέναι$; $-tara$ with Indo-European tar , ‘to cross over,’ whence Latin *trans*, English *through* : both roots thus signifying *progression*, and heightening the idea of the positive.

But it seems better, without trying to attach so definite a meaning to the suffixes in question, to regard them as derived from pronominal roots and akin to certain other pronominal suffixes traceable in Indo-European languages. $-yant$ e. g. connected with the common suffixes $-ant$ (part. act. in Sanskrit, Greek, Latin) : $-vant$ (‘provided with anything,’ Greek $ἔνν$ in $ίχθυό-ἔνν$, $χαρίενν$, etc., $-εις$, $-εσσα$, $-εν$) ; and $-mant$ (*mana-*, *man-*) in $τλή-μων$, $ποι-μεν$, *anī-mo*, *al-mo*, *certa-men*, *car-men* : partic. $-μενο-$, plur. 2 per. $-mini$, etc.

-*tara* = -*ta-ra*, the latter of which elements sometimes expresses the idea of comparative as in Latin *super-us*, etc. Comparison of Adjectives.

(1) -*yant* (-*yans*) or -*ians*. Compar. suffix *yant*.

Greek comp. in -*ιον* (nom. = *ιον-s*; *s* lost and vowel lengthened), before which final -*o*, -*v*, -*po*, of stem are dropped: e. g. Φιλ-ιον (φίλο-), ἡδ-ιον (ἡδ-). θάσσον = τάχ-ιον (ταχ-), μάσσον = μακ-ιον (μακρ-), αἰσχ-ιον (αἰσχρ-), μείζον = μέγ-ιον (μέγας, root μεγ-¹).

Latin -*ios*,
-*ius*, -*ior*,
-*us*, -*or*, $\left\{ \begin{array}{l} \text{with parallel} \\ \text{adverbial} \\ \text{forms} \end{array} \right\} \begin{array}{l} \text{-iens, -iēs,} \\ \text{-es,} \\ \text{-is.} \end{array}$

-*ios* is the oldest form, *n* being lost as in accus. plur., but retained in adverbial -*iens*. In adding -*ios* to vowel stems, the stem vowel is omitted; *prob-ior* (*prob-o*), *sapient-ior*.

In Classical Latin -*ios* split into -*ior*, -*ios*; and the two forms served to mark distinction of gender (*melior*, *melius*). The two were originally identical; and remains of Old Latin give e. g. *melios*, masc., and *prior*, *posterior*, neut.²

-*ior* = -*ios*. *ō* long in Old Latin (as in oblique cases), so Plaut. *Amphit.* 548:—

‘Atque quanto nōx fuisti lōngiōr haec prōxuma.’

Capt. 782 (*auctiōr*), and in neut. *ūs*, Menoechmi, 326:—

‘Proin tū ne quo abeas lōngiūs ab aedibus.’

(2) -*tara*, Greek -*τερο-s*. Compar. suffix -*tara*.

In Latin it appears in e. g. *pos-teri*, *ce-teri*, *al-ter*, *neu-ter*, *u-ter*, *dex-ter*, *citra*, *ultra*, *frustra*; and possibly adverbs in -*ter* and *igi-tur*, etc. (see however Appendix II, A.).

In pure comparatives, only in composition with the other form -*ios*, e. g. *ci-ter-ior*, *de-ter-ior*, etc., or *sin-is-tero*, *min-is-tero*, etc. (cp. Greek λαλ-ίστερο-s).

¹ On the production of these forms by assimilation, see above, pp. 71, 2; and compare Schleicher, ‘Comp.’ § 148 d, e (pp. 224–226), and Peile, p. 228.

² Priscian quotes ‘senatus consultum prior,’ ‘bellum Punicum posterior,’ and says, ‘Vetustissimi etiam neutrum in -or finiebant, et erat eadem terminatio communis trium generum.’ In the appropriation of -*ior* to the masculine gender we perhaps see the result of analogy with substantives in -*or*, *honor*, *labor*, etc., which are usually masculine.

Comparison
of Adjec-
tives.

[*mag-ister*, *min-ister*=the *greater*, the *less* person, cp. English 'mayor,' 'major,' 'minor.']

Comparison of Adjectives.—Superlative.

The elements of superlative formation in Indo-European languages are *-ta* and *-ma*, either separately or combined, or either of them doubled, or in combination with the comparative stem ; as under the following heads :—

Superlative
suffixes.

1. *-ta* ; in numerals *πῶτο-s*, *ἑκτό-s*, *sexto-*.
2. *-ma* ; *πρώτο-s*, *primo-*, *summo-*, etc.
3. *ta-ta* ; the ordinary Greek superlative in *-taro-s*.
4. *ta-ma* ; in Latin *optumo-*, *dextumo-* (or without the superlative idea, *fnitimo-*, *maritimo-*). With these Corssen classes the superlatives *facillimus*, *acerrimus*, *veterrimus*, which forms he holds=*facil-timo-*, *acer-timo-*, *veter-timo-* ; *-timo* after *l, r* becoming first *-simo-*, and then by assimilation (p. 70) *-limo-*, *-rimo-*. Thus *proximus*=*propic-tumus* (from an adjectival stem *propico-*) ; thence *propicsumus* and by contraction *proximus*. *Maxumus* = *mag-tumus*, *mag-sumus*. Another explanation however (see Roby's Latin Grammar, Preface, p. lxi) makes these forms=*-ios* or *-is* of comp. + *-i* + *-mus* (*-ma*) ; e.g. *facillimus*=*facil-is-i-mus* under strong contraction. The difficulty here is in the insertion of *i* between *is* and *mus*. Both theories are possible : Corssen's however follows a wider analogy, and (except in one or two cases) rests upon an easier contraction (see below, number 8, on *-issimus*).

5. *ma-ta* ; Greek *πύματο-s*, *ἰβδόματο-s*.

6. *yans-ta* ; Greek superlative in *ιστο-*, *μέγιστο-s*, etc.

7. *yans-ma*=*ios-mo*=*is-mo*=*i-mo* in *minimo-*, *plurimo-*, etc., where *i* is all that remains of the comparative suffix.

8. *yans-ta-ma*=*is-tumo*, found in two words, *sollistumum* (*tripudium*), Cic. de Div. ii. 34. 72, explained as 'perfect' from *sollus*=*totus* ; and *sinistumum*, superlative of *sinister*, as *dextumus* of *dexter*. On the analogy of these two forms, Corssen explains the regular Latin superlative in *-issimus*=*-is-tumus*=*-ios-tumus* (see above, number 4, on *facillimus*, etc.). Here again another explanation is offered, that *-issimus*=*-is-imo*¹, the double

¹ See Roby's 'Latin Grammar,' vol. i. Preface, p. lxi.

s being due partly to the desire to indicate the length of the preceding syllable, partly to an attempt to preserve the sound of s sharp. It seems doubtful, however, whether s is ever 'sharpened' to ss for merely phonetic reasons, except where a syllable is lost before it (as in *locassim*, etc.); and of this moreover there is no example in noun-forms.

9. *tara-ma*, in *extremo*-, *postremo*-.

Paradigms of Noun Inflection in Sanskrit¹, Greek, and Latin. (From Bopp, Schleicher, and Ferrar.)

I (a). Consonant Stems :—

Paradigms
of Noun In-
flexion;

Consonant-
Stems.

	Sanskrit.	Greek.	Latin.
(1) Stem	<i>vāk'</i> - (fem)	<i>ὀπ</i> - (fem.)	<i>vōc</i> - (fem.) (<i>voc-i</i>)
Singular:—			
Nom.	<i>vāk</i>	<i>ὀπ-s</i>	<i>vōc-s</i> (vox)
Accus.	<i>vāk'-am</i>	<i>ὀπ-a</i>	<i>vōc-em</i>
Gen.	<i>vāk'-ās</i>	<i>ὀπ-ός</i>	<i>vōc-is</i>
Abl.			<i>voc-ē(d)</i>
Loc.	<i>vāk'-i</i>	<i>ὀπ-ί</i> (dat.)	
Dat.	<i>vāk'-é</i> (= ai)		<i>voc-i</i>
Instr.	<i>vāk'-ā</i>		
Voc.	<i>vāk</i>		
Dual:—			
Nom. Acc.	<i>vāk'-ā, -āu</i>	<i>ὀπ-ε</i>	
Gen. Loc.	<i>vāk'-ós</i>		
Dat. Abl. } Instr. }	<i>*vāg-bhyām</i>	<i>ὀπ-o-iv</i>	
Plural: —			
Nom.	<i>vāk'-as</i>	<i>ὀπ-es</i>	<i>vōc-ēs</i> (voci-es)
Acc.	<i>vāk'-as</i>	<i>ὀπ-as</i>	<i>vōc-ēs</i>
Gen.	<i>vāk'-ām</i>	<i>ὀπ-ων</i>	<i>vōc-um</i>
Loc.	<i>vāk'-shú</i>	<i>ὀπ-οι</i> (dat.)	
Dat. Abl.	<i>*vāg-bhyās</i>		<i>voc-i-bus</i>
Instr.	<i>*vāg bhis</i>	(-φiv)	

¹ In the orthography of Sanskrit words in this and the following Paradigms, I have in the main followed Schleicher.

* *k'* of stem assimilated to the media *bh* (see p. 72). This *k'* is the palatal modification (*ch*) of guttural *k*, which appears only in nom. *vāk*. The sign *k'* is preferable to *ch* here, as showing the easy transition from the nominative to the oblique cases (see p. 31, note 4).

Inflection of
Consonant
Stems.

	Sanskrit.	Greek.	Latin.
(2) Stem	<i>bharant</i> (masc. n.)	* <i>φέρωντ</i> - (m. n.)	<i>ferent</i> (m. f. n.), <i>ferent-i</i>
Singular :—			
Nom.	bhāran, bhārat (n.)	<i>φέρον</i> (- <i>οντ-s</i>)	feren(t)-s
Accus.	bhārant-am, bhārat (n.)	<i>φέρωντ-a</i>	ferent-em
Gen.	bhārat-as	<i>φέρωντ-os</i>	ferent-is
Abl.			ferent-ē(d)
Loc.	bhārat-i	<i>φέρωντ-i</i>	
Dat.	bhārat-ē		ferent-i
Instr.	bhārat-ā		
Voc.	bhāran, bharat (n.)		
Dual :—			
Nom. Acc.	bhārant-a, -āu (m.) -i (n.)	<i>φέρωντ-e</i>	
Gen. Loc.	bhārat-os		
Dat. Abl. Instr. }	*bhārad-bhyām	<i>φέρωντ-o-ᾱ</i>	
Plural :—			
Nom.	bharant-as, bhārant-i (n.)	<i>φέρωντ-es</i> -a	ferent-es (-ies)
Acc.	bhārant-as (m.), bhārant-i (n.)	<i>φέρωντ-as</i> -a	ferent-es
Gen.	bhārat-ām	<i>φέρωντων</i>	ferent-ium (-um)
Loc.	bhārat-su	<i>φέρωντ-σι</i> (-ουσι)	
Dat. Abl.	*bhārad-bhyas		ferenti-bus
Instr.	*bhārad-bhis	(-φιν)	
(3) Stem	<i>mānas</i> - (n.) <i>dur-manas</i> (m. f.)	<i>μένος, μένες</i> (n.) <i>δυσ-μενές</i> (m. f.)	<i>genus, genes</i> (n.) <i>vetus, vetes</i> (m. f.) (s becomes r)
Singular :—			
Nom.	mānas dur-manās (m. f.)	<i>μένος</i> <i>δυσμενής</i>	genus, arbōs (f.) vetus
Acc.	mānas durmanas-am (m. f.)	<i>μένος</i> <i>δυσμενέσ-α, -εα, -ῆ</i>	genus veter-em (m. f.)

Greek forms a feminine by addition of suffix *-ja* to this stem, *φέρωντ-ja*, *φέρουσα*, which is declined as a fem. *a*-stem. The same formation exists in Latin as a fem. noun : *patien*(t)s, *patient-ia*.

* Assimilation of *t* to *bh*.

	Sanskrit.	Greek.	Latin.
	mānas-as	μενέσ-ος, -εος, -ους	gener-is
	mānas-i	μένεσ-ι, μένει	gener-ē(d) (ruri ?)
	mānas-ē (= ai)		gener-ī
	mānas-ā	(ἐχέσ-φι = bhi)	
	mānas	μένος δυσμενέσ (m. f.)	genus
Acc.	mānas-ī (n.) durmanas-ā, -āu (m. f.)	(μένεσ-ε) μένη δυσμενέσ-ε, δυσμενή	
Loc.	mānas-ōs		
Abl. } r. }	mānō-bhyām	μενέσο-ιν, -εριν, -οῖν	
	mānās-i (n.) durmanas-as (m. f.)	μένεσ-α, -εα, -η δυσμενέσ-ες (m. f.) -εες, -εῖς	gener-a (n.) veter-ēs (m. f.)
	mānās-i dur-manas-as (m. f.)	μένεσ-α, μένη δυσμενέσ-as (m. f.) -εας, -εῖς	gener-a (n.) veter-es (m. f.)
	mānas-ām	μενεσ-ῶν, -εῶν, -ῶν	gener-um
Abl.	mānas-su mānō-bhyas mānō-bhis	μένεσ-σι, μένεσι (μένεσ-φι)	gener-ibus

—Masc. and fem. forms are only given where they differ from those of the neuter stem.

I (b). Stems in *i* :—

	Sanskrit.	Greek.	Latin.
Stem	<i>āvi-</i> (m. f.) <i>vāri</i> (n.)	<i>πολι-</i> (fem.) <i>ἰδρι-</i> (adj.)	<i>ovi</i> <i>mari-</i> (n.)
Singular :—			
Nom.	<i>āvi-s</i> <i>vāri</i> (n.)	<i>πόλι-s</i> <i>ἰδρι</i> (n.)	<i>ovi-s</i> <i>mare</i> (n.)
Accus.	<i>āvi-m</i> <i>vāri</i>	<i>πόλι-v</i> <i>ἰδρι</i>	<i>ove-m</i> <i>mare</i>
Gen.	<i>āvēs</i> <i>vāri-ṇ-as</i> <i>āv-j-as</i> (f.)	<i>πόλι-os</i> , <i>πόλε-os</i> <i>πόλη-os</i> = <i>πόλεγ-os</i> (<i>-os</i> , adv.)	<i>ovis</i>
Abl.			<i>ovē(d)</i> <i>mari-(d)</i>
Loc.	<i>āvāu</i> <i>vāri-ṇ-i</i> <i>āv-jām</i> (f.)	<i>πόλι-ι</i> , <i>πόλει</i> <i>πόλη-ι</i>	
Dat.	<i>āvaj-ē</i> <i>vāri-ṇ-ē</i> <i>āv-j-ai</i> (f.)		<i>ovī</i>
Instr.	<i>āvi-n-ā</i> <i>vāri-ṇ-ā</i> <i>āv-j-ā</i> (f.)		
Dual :—			
Nom. Acc.	<i>āvī</i> <i>vāri-ṇ-ī</i>	<i>πόλι-ε</i> , <i>πόλεε</i>	
Gen. Loc.	<i>āv-j-ōs</i> <i>vāri-ṇ-ōs</i>		
Dat. Abl. } Instr.	<i>āvi-bhyām</i>	(<i>πολι-ο-ιν</i>) <i>πολεοῖν</i>	
Plural :—			
Nom.	<i>āvaj-as</i> <i>vāri-ṇ-i</i>	<i>πόλη-es</i> = <i>πόλεγ-es</i> <i>πόλι-es</i> , <i>πόλεις</i> <i>ἰδρι-a</i> (n.)	<i>ovēs</i> <i>mari-a</i> (<i>ovi-es</i>)
Acc.	<i>āvī-n</i> (m.) <i>vāri-ṇ-i</i> <i>āvi-s</i> (f.)	<i>πόλη-as</i> <i>ἰδρι-a</i> <i>πόλεις</i>	<i>ovēs</i> <i>mari-a</i>
Gen.	<i>āvi-n-ām</i>	<i>πολι-ων</i> , <i>πόλεων</i>	<i>ovi-um</i>
Loc.	<i>āvi-shu</i>	<i>πολίσι</i> , <i>πολέ-σι</i> <i>πολί-ε-σσι</i>	
Dat. Abl.	<i>vi-bhyas</i>		<i>ovi-bus</i>
Instr.	<i>āvi-bhis</i>		

N.B.—Neuter forms are only given where they differ from those of masc. and fem. stems.

I (c). Diphthongal Stems :—

	Sanskrit.		Greek.		Latin ¹ .
Stem	1. nāu- 2. gau-		1. ναῦ- 2. βοῦ-		1. (navi-) 2. bou- (bov-i)
Singular :—					
Nom.	nāu-s	gau-s	ναῦ-s	βοῦ-s	navi-s bō-s (bous)
Acc.	nāv-am	gā-m	ναῖ-α	βοῦ-ν	nav-em bov-em
Gen.	nāv-ās	gō-s	ναῖ-ός	βοῖ-ός	navi-s bov-is
Abl.	nāv-é	gāv-e	ναῖ-ός	βοῖ-ός	navē(d) bovē(d)
Loc.	nāv-í	gāv-i	ναῖ-ί	βοῖ-ί	nav-i bov-i
Dat.	nāv-é	gāv-ē	ναῖ-ί	βοῖ-ί	nav-i bov-i
Instr.	nāv-é	gāv-ā	ναῖ-φί	βοῖ-φί	(as nom.)
Voc.	(as nom.)		ναῖ	βοῖ	(as nom.)
Dual :—					
Nom. Acc.	nāv-ā, -āu	gāv-ā, -āu	ναῖ-ε	βοῖ-ε	
Gen. Loc.	nāv-ōs	gāv-ōs	ναῖ-οῖ	βοῖ-οῖ	
Dat. Abl. } Instr. }	nāu-bhyām	gā-bhyām	ναῖ-οῖν	βοῖ-οῖν	
Plural :—					
Nom.	nāv-as	gāv-as	ναῖ-ες	βοῖ-ες	navēs bovēs (ies)
Acc.	nāv-as	gāv-as	ναῖ-ας	βοῖ-ας	naves boves
Gen.	nāv-ām	gāv-ām	ναῖ-ων	βοῖ-ων	navi-um bo-um = bov-om
Loc.	nāu-shú	gō-shu	ναῖ-σι	βοῖ-σι	
Dat. Abl.	nāu-bhyās	gō-bhyas	ναῖ-σι	βοῖ-σι	navi-bus bō-bus bū-bus
Instr.	nāu-bhis	gō-bhis	ναῖ-σι	βοῖ-σι	

¹ The disappearance of diphthongs in Latin (see pp. 52, 53) leaves but little trace of diphthongal stems. *navis* is throughout an *i*-stem: but the declension of *bos* retains traces of a stem *bou-* or *bov-* corresponding to Greek *βοῦ-*, *βοῖ-*.

II (a). Vowel Stems (masc. and neut.):—

	Sanskrit.	Greek.	Latin.
Stem	áçva- (m.) jugá- (n.)	ἵππο- (m.) ζυγο- (n.)	equo- (m.) jugo- (n.)
Singular :—			
Nom.	áçva-s jugá-m	ἵππο-ς ζυγὸ-ν	equo-s (equus) jugu-m (-om)
Acc.	áçva-m jugá-m	ἵππο-ν ζυγὸ-ν	equo-m jugu-m
Gen.	áçva-sya	ἵππο-(σ)ιο	equo-is
Abl.	áçvā-t	ἵππο-ο, ἵππου	equo-i, equi equō(d)
Loc.	áçvē (áçva-i)	(οἴκο-ι, οἴκοι)	(domi=domo-i?)
Dat.	áçvā-j-a	ἵππο-οι, ἵπποι	equōi = equō-oi equō
Instr.	áçvēn-a (Vedie áçvā)	ποντό-φι	
Voc.	áçva	ἵππε (= ἵππο-) ζυγό-ν	eque (equo) jugu-m
Dual :—			
Nom. Acc.	áçvā, áçvāu	ἵππο-ε, ἵππων	
Gen. Loc.	áçva-j-ōs		
Dat. Abl. } Instr. }	áçva-bhyām	ἵππο-ιν	
Plural :—			
Nom.	áçvā-s (Vedic áçva-sas) jugán-i (n.) (Vedic jugá)	ἵππο-ι ζυγά (n.)	(equo-es, equeis) equi jug-a (m.)
Acc.	áçvān (= áçvan-s) jugán-i	ἵππους = ἵππων-ς ζυγά	equōs = equom-s juga
Gen.	áçvā-n-ām	ἵππό-ων, ἵππων	equō-rum equūm = equo-ōm
Loc.	áçvē-shu	ἵπποι-σι, ἵπποι-ς	(equo-is) equis
Dat. Abl.	áçvē-bhyas		
Instr.	áçva-is (Vedic áçva-bhis)	(θεό-φιν)	

II (b). Vowel Stems (feminine ā-).

	Sanskrit.	Greek.	Latin.
Stem	áçva-	χώρα-	equa-
Singular :—			
Nom.	áçvā	χώρα	equa
Accus.	áçvā-m	χώρα-ν	equa-m
Gen.	áçva-j-as	χώρα-ς	(equa-is, equās) equai, equae
Abl.			equā(d)
Loc.	áçva-j-ām	χώρα-ι	(Romae=Roma-i?)
Dat.	áçva-j-ai Ved. áçvā-i (a-ai)	χώρα (χώρα-αι)	equāi = equa-ai
Instr.	áçva-j-a Ved. áçvā	βίη-φι	equae
Dual :—			
Nom. Acc.	áçvē	χώρα	
Gen. Loc.	áçva-j-ōs		
Dat. Abl. } Instr. }	áçva-bhyām	χώρα-ιν	
Plural :—			
Nom.	áçvā-s (Ved. açva-sas)	χώραι	(equa-es, equās; equais, equai) equae
Acc.	áçvā-s (ām-s)	χώρας (-αν-ς)	equās (-am-s)
Gen.	áçva-n-ām Ved. áçvām	χώραν (α-ων)	equa-rum
Loc.	áçvā-su	χώραι-σι, χώραι-ς	(equa-is) equis
Dat. Abl.	áçvā-bhyas		equa-bus
Instr.	áçvā-bhis	(-φιν)	

CHAPTER VII.

INFLECTION OF PRONOUNS.

THE Pronouns exhibit certain irregularities of inflection, which make it necessary to consider them separately from nouns. In many cases they have undergone such changes that the forms admit of only conjectural explanation : and the variety of pronominal roots employed makes it difficult, if not impossible, to reduce them to any uniform scheme. The Pronouns of the 1st and 2nd person, and the reflexive pronoun (Indo-European *ma-*, *tva-*, *sva-*) have no distinction of gender : a fact which is accounted for by their antiquity, if (as appears likely) they are the oldest extant elements in language, developed previously to the introduction of distinction of gender. The presence or absence of this distinction divides the pronouns roughly into two main heads, viz. (1) Pronouns without Gender (as above), and (2) Pronouns with Gender.

Pronouns
without
Gender.

(1) Pronouns without Gender (1st and 2nd Personal, and Reflexive).

The original of these three pronouns, *ma*, *tva*, *sva*, are traceable in the oblique cases, and in Verb Inflections of person (*-mi*, *-si*, *-ti*, see below, ch. viii) ; but all speculation as to the derivation of meaning of these elements is fruitless. The declension of these three pronouns has many points of similarity, and they might without difficulty be considered together : but it seems best upon the whole to take them separately.

1st Personal Pronoun (*ma*).

Nom. Sing. Here we are met at once by a different form ; viz. Sanskrit *ahám*, Greek ἄγων (Doric), ἔγωγα, ἐγώ (Attic), ἔγω.

ἰώνει (Boeotian); Latin *egō*, later *egō*¹. *Ahām* and *ἐγών* probably arise from a common form *agham*: and this may arise from three pronominal stems, 1. *a-* (demonstr.), 2. *gha* or *ga* (Greek *γα*, *ἐγώ*), 3. *ma-* (1st per. stem).

Accus. Sing. Sanskrit *mā-m*, *mā*; Greek *μέ* or *ἐμέ* (ε ‘pros-thetic’ or auxiliary, see p. 78), *ἐμεῖ* Doric; Latin *mē*. Quintilian (i. 5. 20) speaks of *mehe*: and in Old Latin *med*, *ted*, *sed* occur, probably formed on analogy of the ablative in *-d*. The quantity of *mē* as compared with *μέ* is variously explained as arising from confusion with the ablat. *mē* (Corssen²), as a consequence of its being monosyllable (Schleicher, § 265), or as a compensation for the loss of *-m*, i. e. *mē*=*mē-m*, *mī-m* (stem *mi-* as in *mi-hi*).

Gen. Sing. Sanskrit *māma* (stem reduplicated, case ending lost); Greek *ἐμεῖο* (Epic)=*ἐμε-σyo* (as *-οιο* of nouns, p. 112); then by loss of *ι* (*j*) *ἐμεο*, and by contraction *ἐμοῦ*, *μοῦ* (Attic), *ἐμεῦ*, *μεῦ* (Doric). The forms *ἐμέος*, *ἐμοῦς*, *ἐμεῦς* (Doric), *ἐμῶς* (Syracusan), are usually explained as addition of gen. sign *-s* to the old genitive. In Latin *mei* is probably a locative, or borrowed from the possessive *meus*. An old genitive *mis* is said to have been used by Ennius.

Ablat. Sing. Sanskrit *ma-t*, Latin *mē-d* (as *tē-d*, *sē-d*), a form restored by Ritschl to many passages in Plautus, e.g. Trin. 258, 1080; Amph. 812; Most. 365.

Locat. Sing. Sanskrit *māji*; Greek dat. *μοι* (*μο-+ι*); and perhaps Latin gen. sing. *mei*.

Dat. Sing. Sanskrit *mā-hyam*; Greek *ἐμὶν* (Doric)=*ἐμε-φιν*=(e)*ma-bhyam*, cp. p. 120; Latin *mi-hei*, *mihi* (afterwards *mihī*) is for *mi-bei* (as in *tibei*, *sibei*).

Instr. Sing. No trace in Greek or Latin.

Nom. Plur. The Indo-European stem of this case was perhaps formed by addition of the pronominal element *-sma* (*sa-ma*) to the demonstrative stems *ma-*, *a-*, *va-*, i. e. *ma-sma-*, *a-sma-*, *va-sma-*. The first would account for Lithuanian *mės*; the second for (Vedic) Sanskrit *asmē*; the third for Sanskrit *vajām*,

¹ See Wordsworth, ‘Fragments,’ etc. Introd. xii. 4.

² ‘Kritische Beiträge zur Lateinischen Formenlehre,’ p. 528.

1st Personal
Pronoun.

Gothic *weis*, English *we*, Greek *ἡμεῖς*, *ἡμέες*, *ἄμμες* (Aeolic), *ἀμῆς* (Doric), arise from stem *asma*, *asmi*=*ἄμμι*- (by assimilation, p. 70) or *ἡμι*- by loss of *s* and compensatory lengthening of *a* to *η* (cp. *ἐσ-μὲ*, *εἰμὲ*).

Latin *nōs* (*enōs*, Carm. Arval.) seems connected with stem *no*, which occurs in Greek *νῶϊ*, Sanskrit dual *nāu*, and accus. gen. dat. plur. *nās*. It may be that *nōs* is an accus. used as nom., and originally *nōs* (Sanskrit *nās*), but lengthened from analogy of the common accus. plur. in *-ōs* (*equōs*). Bopp, however, considers that *nos*- is the stem, found e.g. in *nos-ter*, and connects both it and Sanskrit *nās* with *sma*, whence he derives *-met* in *egomet*, etc., and *immo*=*ismo* (*i-sma*).

Accus. Plur. Sanskrit *asmān*=*asman-s*; Greek *ἡμέας*, *ἄμμε* (Aeolic), from same stem as nom. plur.: Latin *nos* as nom. plur.

Gen. Plur. Sanskrit *asmākam* (an adjective in acc. sing. neut.), *nas*: Greek *ἀμμέων* (Aeolic), *ἡμέων* (Ionic), *ἡμῶν*, *ἡμείων* (Epic) from stem *ἄμμε*-, *ἡμι*-; Latin *nostrum*=*nostro-um*, gen. plur. of possessive stem *nostro*-. *Nostro-rum* is also found in Plautus.

Abl. Plur. Sanskrit *asmā-t*; Latin *no-bis* (as dat.).

Loc. Plur. Sanskrit *asmā-su*; Greek (Aeolic) *ἀμμέ-σιν*.

Dat. Plur. Sanskrit *asmā-bhyam* or *nas*; Greek *ἡμῖν*, *ἄμμιν*, where *ν*=*ι-φιν* (see above, p. 123); Latin *nō-bis* (= *nos-bis*, if *nos*- be stem).

Dual. Greek nom. acc. *νῶϊ*, *νὸ*, *νῶε* (Boeotian), gen. dat. *νῶϊν*, *νῶν*, are forms from a stem *νω*=Sanskrit *nāu*-, which is used (without inflection) for nom. gen. and dat. dual. In form this *nāu* is a regular nom. acc. dual from stem *na*-, as *ἀφ᾽αὐ* from *ἀφ᾽α*-.
2nd Personal Pronoun (tva).

2nd Personal
Pronoun.

Nom. Sing. Sanskrit *tvam* [perhaps=*ta*+*va*+*ma*]; Greek *σὺ*, *τὺ* (Doric), with Boeotian forms *τοῦν* or *τῖν-η*, where *ν* probably = *-m* of *tvam*; Latin *tu*. In *τὺ*, *tu*, the *u* represents *v* or *F*.

Acc. Sing. Sanskrit *tvā-m* or *tvā*; Greek *σέ*, *τέ* (Doric) (= *σFέ*, *τFέ*), *τῖν* (Boeotian); Latin *tē*=*tve-m*, stem *tvi*- (for quantity} see above on 1st pers. pron.); Umbrian has *tiom*.

which either = *tuom*, = *tvam*, or (Corssen) = *twio-m* from stem ^{2nd Personal} *twi-* lengthened by *a* (cp. *e-u-m* = *i-o-m* from stem *i-*).

Gen. Sing. Sanskrit *tāva* = *tva-tva* (reduplication of stem with loss of inflection); Greek *τεῖο* (Epic), = *τεfo-o-σyo* = *tava-sya* (see p. 111); *σεῖο* = *tva-sya*, then *εῖο*, *σεῦ* (Ionic), and *σοῦ*; Doric *τέος*, *τεούς*, *τεῦς*, *τίος*, *τίως*, in which *-s* is added to the old form (cp. on 1st pers. pron.).

Abl. Sing. Sanskrit *tva-t*; Latin *tē* (old Latin *tēd*, abl. from *ti-*).

Dat. Sing. Sanskrit *tu-bhyam*; Latin *ti-bi*; Greek *τεῖν* (Epic).

Nom. Plur. The Sanskrit forms *yushmē* (Vedic nom.) and *yushmā-n* (accus.) point to *tva-sma* as the Indo-European form. The Greek and Latin forms (*ὑμεῖς*, *ὑμεις*, *ὑμε*, *vos*) are parallel to those of 1st pers. pron., and so throughout the plural of 2nd pers.

Dual. The Greek forms *σφῶϊ*, *σφῶ* (nom. acc.), and *σφῶϊν*, *σφῶν* (gen. dat.), retain in *φ* the *v* sound of *tva*: *σφ* = *tv*. [Latin has retained the *v* in *tui* and the possessive *tuius* (= *twas*).]

Reflexive Pronoun (sva).

The stem *sva-* appears in Sanskrit only in compounds, e. g. ^{Reflexive} *sva-yam* (self), *sva-tas* (by oneself), etc.¹: but it is used to form the possessive *sva-s* = Latin *suus* = Greek *σῆς*, which appears (by loss of *F* and change of *σ*, see p. 62) as *δς* the possessive pronoun in Homer. There is one distinction of gender in this pronoun, viz. Greek nom. acc. plur. neut. *σφέα*.

Nom. Sing., wanting in Greek and Latin.

Accus. Sing. Greek *ἐ*, Aeolic *fē* = *σfē*, Epic *έέ* = *σfē* (see pp. 62, 64). *σfē* = *sva*, with inflection lost. The forms *μιν* (Epic), *μιν* (Doric), are perhaps reduplicated accusatives of stem *i-* (*ιμ-ιμ*): cp. Latin *sese*. Latin *sē* = *svē* = *svi-m*: Oscan *siom* either = *sva-m* or *svi-o-m* (see above on 2nd pers.). Old Latin *sed*; see on *med*, *ted* accus.

Gen. Sing. *εῖο* (Epic) = *σfē-o*, *εῖο* (Ionic), *οῖ* (Attic), *εῖ*, *εῖοῦ* (Doric), *εῖους* (Boeotian), (see above on *εῖμους*, *τεῖους*). In all these

¹ See Curtius' 'Elucidations,' p. 85.

forms the aspirate = σ (p. 62) and F has disappeared. (?) Latin *sui*; see on *mei*, *tui*, p. 135.

Abl. Sing. $sē$, original $sēd = sei-d$ from stem si (in *si-bi*) = *svi*.

Loc. Sing. oi , Aeolic $foi = σfo-i$; Latin *sui*.

Dat. Sing. Boeotian $ēiv$, Doric iv ($ēiv$) = $ē-φiv$; Latin *si-bi*, Oscan *si-fei*, Umbrian *si-be* and *se-so* (Tab. Eugub.¹), which is perhaps a reduplicated locative = *se-so-i* (?), or a genitive form = *sva-sya*: but these are only conjectures upon a very obscure form.

In the plural Greek retains the stem but little altered ($σφi- = sva$), and has a very complete set of forms: while in Latin the plural forms are identical with the singular. Thus in Greek,—

Nom. Plur. $σφεις = σφε-ες$.

Accus. Plur. $σφας$, $σφε-ας$ (Ionic), $σφει-ας$ (stem raised), Doric $σφε$ (inflection lost), Aeolic $ā-σφε$ (a 'prosthetic' or 'auxiliary,' see above, p. 78).

Gen. Plur. $σφων$, $σφε-ων$ (Ionic), $σφειων$ (Aeolic).

Loc. Plur. $σφι-σι$.

In Greek *Dual* the stem $σφω- = svā$. $σφω-ε$ then has the dual nom. acc. inflection as well as the stem vowel lengthened; $σφωiv$ (gen. dat.) = $σφω-φiv$.

¹ Wordsworth's 'Fragments,' Introd. xii. 9.

I. PRONOMINAL DECLENSION WITHOUT GENDER.

(i.) Pronoun of the 1st Person (ma-) :—

	Sanskrit.	Greek.	Latin.
Singular :—			
Nom.	ahám	ἐγών, ἐγὼ	ego
Accus.	mā-m, mā	ἐ-μέ, μέ	mē
Gen.	māma	ἐμεῖο (ἐμε-σγο) ἐμοῦ, μοῦ ἐμοῦ-s	(mei ?)
Abl.	ma-t		mē-d
Loc.	mā-ji	ἐμο-ι, μο-ι	mei (unless gen.)
Dat.	mā-hyam	ἐμῖν (ἐμε-φιν)	mi-hei, mihi
Instr.	mā-jā		
Dual :—			
Nom.	āvām	} νῶι, νῶ	
Acc.	āvām, nāu		
Gen. Loc.	āvā-jōs	•	
Dat. Abl.	āvā-bhyām	νῶ-ιν, νῶιν	
Instr.	(nāu)		
Plural :—			
Nom.	vajām asmé (Ved.)	ἄμμες (ἄσμη-) ἡμέ-ες (ἡμη-) ἡμεῖς	nōs (? nōs) (enōs, Carm. Arv.)
Acc.	asmān nas	ἄμμε ἡμέας, ἡμᾶς	nōs
Gen.	asmāk-am (adj.) nas	ἡμέων ἡμεί-ων, ἡμέ-ων ἡμῶν	nostrum (nostro-um) nostri
Abl.	asmā-t		nō-bis (dat.)
Loc.	asmā-su	ἄμμε-σιν	
Dat.	asmā-bhyam nas	ἄμμιν (ι-φιν) ἡμῖν	nō-bis
Instr.	asmā-bhis		

(ii.) Pronoun of the 2nd Person (tva-) :—

	Sanskrit.	Greek.	Latin.
Singular :—			
Nom.	tva-m	τὸ, σὺ	tu
Accus.	tvā-m, tvā	τὸ, σὲ (= τφε)	te = tve-m
Gen.	táva	τεοῖο = (τεφο-σγο) σείο, σεο σοῦ, σευ τεοῦ-ς	(tui ?)
Abl.	tva-t		tē-d (= tei-d)
Loc.	tvá-ji	σο-ι (tva-i)	tui (gen.)
Dat.	tú-bhyam	τεῖν (ι-φιν)	ti-bei, tibi
Instr.	tvá-jā		
Dual :—			
Nom.	yuvám	σφῶ-ι, σφῶ	
Acc.	yuvám, vām		
Gen. Loc.	yuva-jōs	σφῶ-ιν (ι-φιν) σφῶν	
Dat. bl. }	yuvá-bhyām		
Instr. }	vām		
Plural :—			
Nom.	yū-yám yushmṣé (Ved.)	ὑμμε ὑμέες, ὑμεῖς	vōs
Acc.	yushmṣá-n vas	ὑμμε ὑμέας, ὑμεῖς	vōs
Gen.	(yushmṣáka-m, adj.) vas	ὑμέων ὑμέων, ὑμέων ὑμῶν	vostrum vostri
Abl.	yushmṣá-t		vō-bis (dat.)
Loc.	yushmṣá-su		
Dat.	yushmṣá-bhyam vas	ὑμιν (ι-φιν) ὑμῖν	vo-bis
Instr.	yushmṣá-bbis		

Reflexive Pronoun (sva-) :—

	Greek.	Latin.
ιτ :—		
ι.	<p>ξ, fε, ξε = σε fε μιν, νιν εῖο = σ fε-σ γο ξο, οῦ, εῦ, ξοῦ ξοῦ-ς</p>	<p>sē (= svi-m) siom (Osc.) (sui ?)</p>
—	<p>ξοῖ, οῖ (fοι = σ fοι) ἐιν, ἱν = ε-φιν</p>	<p>sē-ī, sū sui</p>
Acc.	σφα-ξ	
Abl. Instr.	σφα-ιν	<p>sibei, sibi Osc. si-fei</p>
:—		
3.	<p>σφείς (σφέ-ες) } σφέ-α (neut.) σφέ-ας, σφείας } σφᾶς, σφέ ᾶ-σφε σφέων, σφείων σφῶν σφί-σι σφί(ν) (ι-φιν)</p>	<p>} as in sing. as in sing.</p>

Pronouns with Gender.

declension of these is rather complex, especially in Latin, ^{Pronouns with Gender.} a great variety of pronominal stems is found; and an examination of all their forms belongs to the special grammar of a language. The following tables give the declension of Indo-European demonstrative stem *ta-* in Sanskrit, Greek, Latin; which, compared with the declension of nouns already given (pp. 127-133), will serve for the general illustration of the class of *pronouns*.

Pronominal Stem *ta-*.

I. Masc. and Neut. :—

	Sanskrit.	Greek.	Latin.
Stem	ta-	το-	is-to- (i + sa + ta)
Singular :—			
Nom.	sa, ta-d	ὁ(ς), τὸ	istu-s, is-te, istu-d
Acc.	ta-m, ta-d	τὸν-ν, τὸ	istu-m, istu-d
Gen.	tá-sya	το-ῶ, τοῦ	istius (isto-i-os)
Abl.	tá-smā-t	[τῶς = τῶ-ν]	isto-d
Loc.	tá-sm-in	[οἱ = ὁ-ι]	isti ? { = isto-i (loc.) as humi, quoi = isto-ei (dat.) as quoiei
Dat.	tá-smāi	τῷ = το-οι	
Instr.	tēn-a		
Dual :—			
Nom. Acc.	tāu, tā, tē	τῶ	
Dat. Abl.	tā-bhyām	το-ῶν	
Gen. Loc.	tā-y-ōs		
Plural :—			
Nom.	tē, tā-n-i	τοί, οἱ, τὰ	isti, ista, ista-e-c (eis, his, quae)
Acc.	tā-n, tā-n-i	τοὺς τοὺς, τὰ	istō-s, ista
Gen.	tē-sham	τῶν	istō-rum
Loc.	tē-shu	τοῖ-σι, τοῖς	istis (queis)
Dat. Abl.	tē-bhyas		(qui-bus, hi-bus, hoi-bus)
Instr.	tāis		

II. Feminine :—

	Sanskrit.	Greek.	Latin.
Stem	ta-	τα-	ta-is-ta
Singular :—			
Nom.	sā	ἡ	is-ta, qua-i (quae)
Acc.	tā-m	τῇ-ν	is-ta-m
Gen.	tā-sy-ās	τῇ-ς	is-tius
Abl.			is-tā(-d)
Loc.	tā-sy-ām	τῇ (ῇφι)	is-ti (as above)
Dat.	tā-sy-āi		
Instr.			

	Sanskrit.	Greek.	Latin.
Dual :—			
Nom. Acc.	tē	τῷ	
Dat. Abl.	tā-bhyām	ταῖν	
Gen. Loc.	tā-y-ōs		
Plural :—			
Nom.	tā-s	ταῖ	is-tae
Acc.	tā-s	τῶ-s	is-tā-s
Gen.	tā-sām	τῶ-ων, τῶν	is-tā-rum
Loc.	tā-su	τῇ-σι, ταῖ-s	is-tis
Dat. Abl.	tā-bhyas		
Instr.	tā-bhis		

N.B. Gen. sing. -ius } show increase of { isto-i-us
 Nom. fem. and neut. istaec, quae } stem by i: thus { ista-i-ce, qua-i.

Comparing these forms with those of the nominal declension it will be seen that the nom. sing. termination *-s* is omitted from Sanskrit *sa* (masc.), being in fact (see p. 103) a mere repetition of *sa*. Thus beside Greek *ὅς* (Epic as a demonstrative pronoun) = *sa-s*, we have the later form *ὁ* = *sa*.

In Latin the *-s* is lost in *ille*, *ipse*, *istē* (where final stem vowel sinks to *ē*), *qui* (= *quo-i-s*), and *hic* (= *ho-i-ce*); but is retained in the old forms *ipsus*, *istus*, *ollus*, and regularly in *quis* (= *quō-s*), *is*, *alius*, etc.

The nom. acc. termination of neut. sing. in *-d* is characteristic of this class of pronouns. Sanskrit and Latin have retained the *d*, which Greek has lost: Zend has *ḍ* in *taḍ*: and Gothic *thata* whence our *that*. Bopp, Schleicher, Curtius and others give *tat* as the Sanskrit neut. sing.; Bopp explaining *ta-t* as = *ta + ta*, a repetition of the pronominal element (like *sas* = *sa + sa*), and illustrating the change to Latin *d* by the old ablatives *gnaivod*, etc.; cp. with Sanskrit abl. in *-t*. But here also (see above, p. 116) *-d* is probably the earlier form of the termination. And if *tat* were the true form in Sanskrit, phonetic analogy would (it is said) require in Latin *istut*, in Gothic *tha-tha*. It is probable therefore that Latin *-d* is the original

Pronouns
with Gender.

form, and not a modification of *t*. Greek neut. sing. nom. having thus lost the final τ (δ) ends in *o*: but in other respects the pronominal is the same as the nominal declension of *o*- and *a*- stems.

In Latin also the *a* of stem *ta* is represented by *o* (masc. and neut.) and *a* (fem.), *qui-s*, *i-s*, *ali-s* being exceptions. But on the other hand there are certain peculiarities which distinguish the Latin pronominal declension more markedly than the Greek from that of noun stems in *a*-, *o*-, e.g.—

Peculiarities
of Latin
Pronoun-
declension.

(a.) Gen. sing. formed by addition of *-os* or *-us* (Indo-European *-as*, see p. 111) = *-is* of consonantal declension to the stem lengthened by *i*: thus *istius* = *is-to-i-os*, *hujus* = *ho-i-os*, *cujus* = *quo-i-os*.

(b.) Locative singular in *-i* used as dat., e.g. *is-ti* = *is-to-i* (see p. 121). The form *quoiei*, however, is apparently a true dative, from the stem increased by *i* (*quo-i-ei*), the locative form *quo-i* (*cui*) being the more usual in classical times.

(c.) It has both locative plural (*is-tis*, see p. 122) and dative plural (*qui-bus*).

(d.) The neuter termination *-d* (see above).

(e.) Increase of the stem by *i*. This *i* is probably parallel to the Greek suffix ι , found with pronouns especially, but *after* the case-suffix, e.g. $\acute{o}\iota\tau\omicron\sigma\iota$, $\tau\omicron\delta\iota$, $\acute{o}\iota\tau\omicron\iota$, etc. Its place in Latin is between the stem and the case-suffix, and it is not carried through all the forms. It occurs always in gen. sing. *i-us* = *o-i-os*; often in nom. fem. sing. (*qua-i*, *ha-i-c*, etc.) and in neut. plurals which are similar in form; in masc. and fem. plurals in *-i* and *-æ* = *o-i*, *a-i*, as in nominal declension of *o*- and *a*- stems (p. 106), and in such dat. forms as *quo-i-ei*, *e-i-ei*.

The declension of Latin pronouns is treated very fully in Wordsworth's 'Fragments and Specimens of Early Latin' (Intro. ch. xiii. pp. 91-112). I give here the main results of Mr. Wordsworth's discussion, referring the reader to his work for details.

The chief pronominal stems in Latin are *ho-*, *to-*, *so-*, *co-* (*quo-*), *ollo-*, *i-* or *eo-*. These are employed in the formation of pronouns in various ways, viz.:—

- (1) Simply, as *quo-d*, *ollu-s*, *i-s*.
- (2) Reduplicated or compounded, as in *is-to*, *i-p-so*, *quis-quis*.
- (3) Increased by *i*, as *quī* (*quo-i*), *ei* (see above).
- (4) Increased by *i* and compounded, as *ho-i-ce* (*hīc*), *is-to-i-c* (*istic*).

Formation
and Declen-
sion of Pro-
nouns in
Latin.

These are divisible into three classes, according to simplicity of declension : viz. :—

- (i.) *Ollō-*, *istō-*, *ipso-*, *aliō-*, etc.
- (ii.) *Hō-*, *quo-*, *i-* or *eo-*.
- (iii.) *Sō-*, *to-*, etc., defective and enclitic stems.

The following peculiar or archaic forms may be noted under each of these classes :—

- (i.) *Ollus* (= *ille*) found in Ennius and old inscriptions, and surviving in *olim*, which preserves the oldest form with one *l*. In Lucretius and Vergil it is an intentional archaism.

Peculiar or
archaic
forms.

Istus, *ipsus* are found in Plautus, and even in Terence (Hec. 455). The element *p* in *i-p-so* is the same which appears (as *p* or *pe*) in *rea-p-se*, *quis-p-iam*, *nem-pe*, *pro-pe*.

Alis, *alid* are late contractions of *alius*, *aliud* : *alis* is fem. in Catull. lxvi. 28 : *alid* is frequent in Lucr., who does not use *alis*.

The locative *is-to-i*, *isti* (see above, p. 119) is strictly locative in the adverbs *illi-c*, *istī-c*. A few examples of its use as genitive (perhaps from analogy of noun stems in *o-*) are given : e. g. Ter. And. iii. 5. 2, *nulli consili* ; Plaut. Trin. ii. 2. 37, *coloris ulli capiendi* ; ib. v. 38, *isti modi*. In each of these cases an ordinary genitive in *-i* is close at hand to suggest the analogy. Terence has *alterae* and Plautus *istae* for dat. fem.

A locative formation in *-im* or *-in* (cp. Sanskrit *ta-sm-in*) occurs in the adverbs *olim*, *illin-c*, *istinc*, *hinc*, etc., cp. *long-in-quus*, *prop-in-quus*.

The plural is declined like ordinary *o-* stems.

- (ii.) The stems *ho-* and *quo-* are further increased by *i* ; *ho-* having generally the enclitic *c*, or *ce* appended (a remnant of the pronominal stem *co-*). The increase takes place in sing. nom. *hīc* (*ho-i-c*), gen. *huius* (*ho-i-os*), loc. *hīc* (*ho-i-c*), and plur.

Declension
of Pronouns
in Latin:
peculiar or
archaic
forms.

nom. *hi* (*ho-i*), *ha-i*; dat. and abl. *hibus* (*ho-i-bus*, for examples see Wordsworth, p. 107).

The stem *quo-* (relative), when used as an interrogative pronoun, has a special inflection for nom. with the case suffix *s*, the stem vowel *o* being weakened to *i* (*qui-s*, *qui-d*). The same form is used indefinitely in *ali-quis*, *si quis*, *ne quis*; but then nom. fem. sing. and neut. plur. are not increased by *i*: e.g. *aliqua*, *si qua*.

In the declension of *is*, the stem *i* is sometimes increased by *i* to *ei* (nom. *e-i-s*, gen. *e-i-us*, dat. *e-i-ei*, nom. plur. *i-i*, *e-i-s*), sometimes turned into an *o-* or *a-* stem (*eo-m*, *ea-m*, etc.).

The following peculiar forms may be noticed:

Nom. Sing.: *ei-s* (raised form of *i-s*) is found on some inscriptions; and perhaps *adeo* represents a raised form of neut. *id* (*ad*, *eod*): but this is at best doubtful.

Hic (*ho-i-c*) is sometimes shortened to *hic* (Aen. iv. 22), but not often: *hōc* (*hod-ce*) never.

Acc. Sing.: *im*, *em* in quotations from old laws¹ point to a time before the stem *i* was raised to *eo-*.

Huc (adv.) is originally *hoc*, 'to this place,' as in Aen. viii. 423, and Cicero Epp.

Honc (Ep. Scip. Appendix I. i. 2) and *quo-m* (S. C. de Bacch.) are old Latin forms. *Quom* is the adverb *quum* or *cum*; cp. *quon-dam*: and *quam*, *quanguam*, *quod* are all adverbial accusatives. (See Appendix II. A.)

Gen. Sing.: the suffixed *i* generally becomes consonantal; and in old poets *huius*, *cuius*, *eius* are often monosyllables.

Locat. Sing.: *heic* or *hic* (adv.) is locative = *ho-i-c*, and so perhaps are *quī*, *qui-ne*, and *qui-ppē* (sometimes explained as ablat.). The form *quo-i* is found in Plautus² in the phrase *quoimodi*, apparently gen. (cp. *istimodi* above, p. 145); and *cui-modi* or *cui-cui-modi* are found in Cicero³.

¹ E.g. XII Tab. i. 1, 'Si in jus vocat, ito; ni it, antestamino; igitur em capito;' and viii. 12, 'Si nox furtum faxsit, si im occisit, jure caesus esto.' The existing remains of the XII Tables are given in Wordsworth's 'Fragments,' pp. 254-265.

² For references see Wordsworth, Introd. xiii. 30 (p. 103).

³ Pro Rosc. Amer. 95, 'Vereor enim cui-cui-modi es;' Att. iii. 22 ad fin., 'cui-cui-modi agam.'

Dat. Sing.: *ei-ei* on inscriptions; *ei-i* or *ē-i* in Plautus, and Declension of Pronouns in Latin.
 Lucr. ii. 1136 (*cibus omnis diditur ei*): *quoi-ei* on inscriptions.

Nom. Plur.: the forms *eis*, *hisce*, *ques* have been alluded to under the noun declension (p. 107): for examples see Wordsworth, Fragments, Introduction ix. 9 and xiii. 34. In the feminine *haec* (for the more usual *hae*) is not uncommon: e.g. Verg. G. iii. 305, Aen. vii. 175 (Rom. MS.), 852 (Pal.); Lucr. iii. 601 and vi. 456; Catullus, lxiv. 320.

The adverbial forms *postillā*, *proptereā*, *posteā*, *anteā*; *posthāc* *antidhāc*, *quāpropter*; and the numerals *trigintā*, etc., show an earlier neut. plural of the pronouns in *a* without increase by *i*, as in *ha-i-c* (*haec*); and are evidence for the original quantity of neut. plur. *ā*, seen in Sanskrit, and traceable in Latin poetry: e.g. Verg. Aen. iii. 464 *graviā*, Ter. Ad. 612 *debiliā*. (See Corssen, vol. ii. p. 460; Wordsworth, Introduction ix. 10, and xiii. 35; and cp. Wagner, Introd. to Terence p. 14.) A form *ead* in S. C. de Bacch. is disputed, Bopp thinking it accus., Ritschl ablat.

Loc. Plur.: *eis*, *queis* or *quīs*, *heis* or *hīs* are all in common use as dative and abl. as well as the dative forms in *-bus*, which are more usual with *quo-*. Examples of *hībus*=*ho-i-bus*, *ī-bus* and *ī-bus* are given by Wordsworth, p. 107.

(iii.) The defective stems *so-*, *to-* and others are chiefly trace- Defective Stems.
 able in adverbial forms.

So- (Sanskrit *sa-*, Greek *ó*, English *she*, German *sie*) is seen in *i-p-so*, and the old accusatives *sum*, *sam*, *sos*, *sas* in Ennius and the XII Tables (Wordsworth, p. 108). *Sic* (*sei-ce*) and *si* (*sei*) may be locatives of the same stem: but the analogy of Oscan *svai* and Umbrian *sve* (=Latin *si*) rather points to the pronominal element *sva*. *Sei*, *si* (Italian *se*) is the same word as *si-c*, originally a pronominal adverb='there,' 'in that way,' 'in case that,' and so 'thus' and 'if;' cp. the use of *so*= 'if' in English, e.g. Tennyson's 'Guinevere':—

'It may be, *so* thou purify thyself,
 And *so* thou lean on our fair father Christ,
 Hereafter in the land where all is pure
We two may meet.'

Pronouns in
Latin :
Defective
Stems.

Ta-, *to-* (Greek *το-* in *αὐ-ρό-ς*, *οὐ-ρό-ς* and oblique cases of article; declined throughout in *is-to*, see the Table on p. 142) survive in a number of adverbs: e.g. *ta-m*, *ta-ntus*, etc. (retaining the vowel *a*); *tum*, *tun-c*, *i-tem*, *au-tem* (*a* sunk to *u* and *e*). *U-ti* (*u-tei*, *ut*) is a locative from this stem; and *au-t*, *a-t*, *e-t* are perhaps locatives similarly shortened. *I-tā* (so in Naevius' Epitaph, '*Itāque* postquam est Ōrci traditūs thesaūro') is ablative='this wise:' so *aliu-ta*, 'otherwise.'

From *da-*, *do-*, a similar stem to *ta-*, appear to be formed numerous adverbs and terminations, e.g. *-dam*, *-do*, *-dum*, *-dem*, *-de*, as in *quon-dam*, *quan-do*, *do-nec*, *age-dum*, etc.; *tan-dem*, *qui-dem*, etc.; *in-de*, *un-de*, etc. Into all these forms the idea of *time* enters (not necessarily *duration* of time as distinct from point of time in *tum*, etc.; for e.g. *-dum*= 'now' in *age-dum*, etc., as well as 'while')¹: hence it is possible that they may all be referred to the root *div-*, the origin of *dies*, *de-us* and many Indo-European words for the conception of 'brightness' or 'day' leading to that of 'God'², in Sanskrit *Dyaas-pitar* (*Dies-piter*, 'sky-father'), whence Ζεύς, *Jup-piter*, *Dius Fidius* (Ζεύς φίλιος), etc.; *inter-dius*, *inter-diu*; *prope-diem*, *pri-die*, etc. There is certainly in these latter words and the adverbs of which we are speaking a close parallel between the noun stem *div-* and the supposed pronominal stem *da-*, *do-*: and the two stems are identified by Corssen. Other philologists, however, regard the identification as improbable; and it certainly cannot be taken for granted.

Dē (prep.) is abl. from stem *da-*, like *sē-d*, *sē*, from *sa*. *Ia-m* is explained by Corssen (i. p. 213) as = *dia-m*, 'this day' (*die-m*), like Greek δῆ, ἡδῆ, δῆν. Others refer it to a stem *ja-*, *ya-* (? German *ja*, our *yea*). In *quis-p-iam* its temporal sense is lost: but *et-iam*, *quoniam* retain it in their original use.

A stem *na-* (*no-*) or *an-* is supposed to account for *na-m*, *quis-nam*, etc. The full form is found in these and various weakened

¹ On the various uses of *dum*, see Ramsay's 'Mostellaria,' Excursus ii. p. 184.

² On these words, see especially Max Müller's 'Lectures,' Series II, Lect. x. pp. 425-461, 1st ed.; and Peile, 'Introduction,' p. 51.

forms in *nu-m*, *nun-c*, *vûv*; *nem-pe*, *e-nim*, and Greek *viv*, which last is of course pronominal (see above, p. 137). These are all Pronouns in Latin : Defective Stems. accus. forms : *nae* (*na-i*), *nē*, Greek *va-i*, are locative.

The stem *an-* is preserved in Greek *ἀνά*, *ἄν*, Latin *an* and *in*, *endo*. Its force is 'that,' 'the other.' Sanskrit has *aná* and Lithuanian *ana-s=ille*. Curtius compares *ἄν-ω*, and Latin *an-helare*, 'to draw up breath.' The negative prefixes *ἀν-*, *ἀ-*, Latin *in*, Sanskrit *an-*, *a-*, German and English *un-*, are perhaps connected with the same stem; *ἄν*, *an* in hypothetical sentences and questions are also akin. *In*, *endo*, Greek *ἐν-ί* and *ἐς=ἐν-s* or *ἐν-ί-s* are local in meaning: the two uses of *in* with acc. and abl. being parallel to the two Greek forms.

The enclitic terminations *ce* or *que* in *hi-c*, *ne-c*, *ne-que*, *at-que*, etc. must arise from a stem *co-*, perhaps a variety of *quo-* (= 'who,' 'which,' 'any'), with the demonstrative meaning 'there:' *-pe* in *i-p-se*, *quis-p-iam*, *rea-p-se*, etc., and in *qui-p-pe*, *nem-pe*, *pro-pe* is possibly a dialectic variety of *ce*; Oscan and Umbrian substituting *p* for *k* (by 'Labialism,' see chap. iv. p. 47).

CHAPTER VIII.

VERB INFLECTION.

Distinction
between
Verb and
Noun.

THE Verb ($\rho\eta\mu\alpha$, *verbum*, the 'word' *par excellence*) in Greek or Latin exhibits a much greater variety of inflection than the Noun. Time, mood, person, number, and voice are all expressed, and in some forms all at once, by inflectional additions to the root or simplest form expressing the idea; this verbal root being in no way different from a nominal root, so far as any power of expressing action etc. is concerned. Verbs are thus only nouns with a pronominal affix. The *abstract idea* of e.g. action, motion, sensation, etc., can be expressed equally by a nominal or a verbal root; but when expressed by a verbal root it is further brought into relation as a verb with other words in a sentence, (1) by *Person-endings*, attaching it to a definite *subject* or subjects (the distinction of Number being expressed, as in Noun Inflection); (2) by *Modal* elements, defining the aspect under which the action is regarded, as a fact or a supposition (see p. 153); (3) by *Tense* elements, ascribing it to a particular relation in *time*.

Verb forms
more com-
plex.

A verb form, then, is distinguished from a noun form mainly by the greater number of different elements combined in it. In any case-form of a noun we find one invariable element, the stem, and one variable element, the case-ending, as in $\pi\alpha\iota\delta\text{-}\acute{o}\varsigma$, $\pi\alpha\iota\delta\text{-}\acute{\iota}$, $\pi\alpha\iota\delta\text{-}\acute{\omega}\nu$, etc.; or at most a vowel besides, inserted to connect the case-ending with the stem, as in $\pi\alpha\iota\delta\text{-}\epsilon\text{-}\sigma\sigma\iota$. But *there are very few verb forms of so simple a character*. In

e.g. ἴ-μεν we have only stem and inflection; in ἄγ-ο-μεν, stem, connecting vowel, and inflection; but in ἴωμεν, ἄγοιτε, we have an additional element denoting *mood*; in ἀγάγοιτε a further addition (to the verb stem) denoting *time*; in ἦγαγον another addition, viz. the *augment*. And a comparison of any of the more complex verb forms, in a 'synthetic' language like Greek or Latin, with their equivalents in an 'analytic' language like our own, is the best illustration of the general difference between an analytic and a synthetic language, and the specially complicated nature of the verb forms in the latter. The analysis of two such forms as ἐφίλησαντο and *regeremus* shows (a) in ¹ἐ-²φιλή-³σ-⁴α-⁵ντ-⁶ο, 'they loved themselves,' 1. augment; 2. verb-stem; 3. addition to form tense-stem; 4. connecting vowel between stem and inflection; 5. relic of a pronoun, denoting 3rd per. plur.; 6. voice-letter, indicating middle or passive: (b) in ¹reg-²er-³e-⁴mu-⁵s, 1. stem; 2. sign of past time; 3. sign of mood; 4. sign of 1st personal pronoun; 5. plural sign, denoting others with the person speaking. If s be changed to r (*regeremur*) it denotes that the speaker and others with him are *passive* instead of *active*.

The example last given (*reg-er-e-mus*) shows the order in which verb inflections are usually attached to the stem—viz. Order of Verb Inflections. tense, mood, person, number, and voice. Modifications for tense and mood come between the stem denoting the idea of action, and the personal pronoun denoting the agent; inflections of number and voice, which affect the position of the agent by showing him to be either one of a number or passive instead of active, are appended after the personal pronoun.

The analysis of verb forms is thus more complicated than that of noun forms from the greater number of elements to be distinguished. There is also a further difference, that whereas Further difference between Verb and Noun; Tense-stems. in explaining the different forms of any single noun we can begin with one invariable element, i.e. with one stem only, in the explanation of verb forms we must assume several fixed points, from each of which we start as from a separate stem in the explanation of certain groups of forms. These special

Verb Inflec-
tion : Tense
Stems.

stems, or subordinate centres of classification formed from the verb-stem common to all, are known as *Tense Stems*; the elements of inflection by which *time* is denoted being of a less separable and general character than those of person or mood, and being in fact suffixes for the formation of subordinate stems, each of which is the permanent element or stem in a series of verb forms. Thus in a Latin verb the perfect and supine often show a different stem from that which appears in the present tense: and in a Greek verb such elements as ἀγαγ- in ἀγάγ-ωμεν, ἀγάγ-οιτε, ἀγαγ-εῖν, ἀγάγ-εσθαι; ἄξ- in ἄξομεν, ἄξοιμεν, ἄξειν, etc.; λυσα- in ἔλυσα, λύσα-ι-μεν, λύσα-ς, λύσα-σθαι; or λελυ- in λέλυ-κα, λέλυ-μαι, ἐ-λέλυ-το, have each a comparative permanence among a series of verb forms, and must be regarded as *stems*, though not the verb-stem, in each case. All scientific analysis, therefore, of verb forms in Greek and Latin must take into account these special stems formed from the verb-stem (e.g. ἀγαγ- and ἄξ- from ἀγ- the stem of ἄγω; λυσα- and λελυ- from λυ- the stem of λύω; τυπ- pres., τετυπ- perf., and τυψα- aor., from τυπ- the stem of τύπτω, appearing in ἔ-τυπ-ον¹): and thus the question of *stem formation* must accompany that of *inflection* in the case of verbs to a much greater degree than in the case of nouns. 'To state the case briefly, it may be said that in the noun, formation—that is, formation of the word, or more correctly of the stem—and inflection in the narrower sense are distinct; but in the verb they combine, and encroach each upon the other. He alone is completely master of the verb forms who from the verb-stem common to all can first form all the special stems, and secondly can inflect the stems when correctly formed².' It is not however necessary, any more than in the case of nouns (see above, p. 96), to follow the rigidly scientific order of (1) formation, (2) inflection, or learn always to form uninflected stems before we know how to inflect them when formed: but the formation of stems must in the case of verbs be discussed

¹ Τυπ- is here called the 'pure verbal stem,' as distinguished from τυπτ-, the 'present stem,' τυψα- the weak aorist stem, etc. The 'strong' or 2nd aorist usually exhibits the pure verbal stem.

² Curtius, 'Elucidations,' p. 93.

at least *pari passu* with their inflection. It is not enough to understand how to inflect *τίπτω*, -εις, -ει, *τέτυφα*, -ας, -ε, *ἔτυψα*, -ας, -ε, etc., without understanding how these different forms are connected together in one verb.

In discussing the elements of Verb Inflection, it is usual to take them in the reverse order of their attachment to the verb-stem, beginning from the end of the word with (1) the most universal and characteristic inflections, the *person-endings*, with their forms for active and middle (passive) *voice* and their inflections of *number*; (2) signs of *mood*; (3) *tense-inflections*, i. e. the formation of 'tense-stems.'

I. *Person-endings*, i. e. pronominal suffixes of 1st, 2nd, and 3rd person in singular, dual, and plural number. There are two series for (1) active, (2) passive 'voice;' and in each series there appear a fuller and a weaker form, which are distinguished as (a) *primary* (-*mi*, -*si*, -*ti*, etc., used with present, future, and perfect tenses), (b) *secondary* (-*m*, Greek -*ν*, -*s*, -*t*, used with augmented tenses of Indicative, e. g.—

Primary, *τίθη-μι*, *τίπτο-μαι*, *τίπτο-νται*.

Secondary, *ἐ-τίθη-ν*, *ἐ-τυπτό-μην*, *ἐ-τίπτο-ντο*¹.

II. *Mood Signs*, to distinguish the Conjunctive and Optative Mood Signs. 'Moods' from the Indicative. Of the other so-called 'Moods,' the 'Infinitive' is a verbal noun, while the 'Imperative' is distinguished from the Indicative by a weaker form of person-ending, standing in the relation not of nominative but of *vocative*, and is thus a sort of verbal interjection.

[The force of Moods is a question of Syntax: but it may be noted here that there can be, strictly speaking, only *two* 'moods' (*modi actionis*, modes or aspects under which the action is regarded), viz. (1) direct assertion that it is taking, has taken, or will take place—'Indicative' Mood: (2) the idea or supposition of its taking place in past, present, or future time—'Subjunctive' or Indirect Mood. This latter includes two distinct series of forms, called respectively Subjunctive and Optative 'Mood,' and denoted in Indo-European by distinct suffixes;

¹ Curtius' 'Greek Grammar,' § 226.

Elements of
Verb Inflec-
tion.

but the grammatical relation of these two so-called 'Moods' is rather analogous to that of Primary and Historic Tenses in the Indicative Mood, and in the Latin verb but one 'Subjunctive Mood' is recognised. The position of the sign of mood (see above, p. 151) is appropriate to its functions, as modifying the relation between the subject (person-ending) and action (verbal-stem).]

Tense
Stems:

III. *Tense Stems* are divided into two classes:—

- (i.) '*Simple*' or '*Strong*,' formed from the verbal-stem¹ by reduplication or increase.
 1. Perfect stem, originally by reduplication.
 2. Simple or Strong Aorist (2nd aor.), generally exhibiting the verbal-stem in its simplest form.
 3. Present stem, from which with augment is formed the Imperfect in Greek.
- (ii.) '*Compound*' or '*Weak*,' formed by combination of the verbal-stem with the root *as* (ἐσ), 'to be.'
 4. Weak or Compound Aorist.
 5. Future stem.
 6. Pluperfect.
 7. Imperfect (in Latin).
 8. Passive Aorist (in Greek).

Individual languages form special tense-forms: e.g. Greek, pluperfect from perfect, and passive aorist from a later combination; Latin, different forms of Perfect stem.

Two other elements enter into Verb Inflection, an explanation of which may be given here—the Augment and the Connecting Vowel.

IV. *The Augment.*

The Aug-
ment;

Language seems originally to have had two means for expressing past time; (1) Reduplication (see p. 49), (2) the Augment—in Sanskrit *a*, in Greek *ε* (*a-bhar-a-n*, ἔ-φερ-ο-ν), prefixed to aorist, imperfect, and pluperfect tenses in both those languages. It was probably at first a separable prefix: for (1) in older

¹ See Curtius' 'Greek Grammar,' § 246.

Sanskrit it is separable and (as in Homer) omitted at pleasure ; ^{The Aug-}ment ;
(2) this separable character would help to account for its total disappearance in Latin, and in Greek from all moods but indicative. Of its origin there have been various theories :—

(i.) That it is a variety or abbreviation of Reduplication ; ^{Theories of} ^{its origin.} the vowel of both being ϵ , and the two apparently coinciding in such perfect forms as $\xi\text{-}\gamma\omega\kappa\alpha$, $\xi\text{-}\psi\alpha\lambda\kappa\alpha$. But this resemblance seems to be purely accidental (see p. 176), and the pluperfect tense, with both augment and reduplication ($\epsilon\text{-}\gamma\epsilon\text{-}\gamma\rho\acute{\alpha}\phi\epsilon\iota\nu$), points to their being distinct forms.

(ii.) That it = 'a privativum,' because past time is a denial of present time—'Past = Not Present.' This theory scarcely needs refutation.

(iii.) The view generally adopted (e. g. by Curtius¹, Schleicher, etc.) is that it is a demonstrative pronoun-stem referring to past time, like the German *da*, *damals*. Its original form in Greek (as in Sanskrit) was $\acute{\alpha}$, of which traces remain in the Greek dialects (e. g. $\acute{\alpha}\sigma\beta\epsilon\sigma\theta\epsilon$, Hesych. $\acute{\alpha}\delta\epsilon\iota\rho\epsilon$). This before a consonant became ϵ ('Syllabic Augment') : before a vowel it took the form of that vowel and combined with it to form one long syllable ('Temporal Augment'). Thus, e. g. the Doric $\acute{\alpha}\gamma\omicron\nu$ (imperf. of $\acute{\alpha}\gamma\omega$) = $\acute{\alpha}\text{-}\acute{\alpha}\gamma\text{-}\omicron\nu$: and $\acute{\alpha}\rho\omicron$ corresponds to Sanskrit $\acute{a}rta$, which no doubt arises from $a\text{-}arta$. This contraction took place before the separation of the a sound into a , e , o (p. 34) : and after the root $ar\text{-}$ became fixed in Greek as $\acute{\alpha}\rho\text{-}$, $\acute{\alpha}\rho\omicron$ stood to $\acute{\alpha}\rho\nu\mu\iota$ as $\acute{a}rta$ to $ar\text{-}nau\text{-}mi$ in Sanskrit. With initial ι and υ we should have expected a diphthong, i. e. ai , au ($\epsilon\iota$, $\epsilon\upsilon$) : but verb-stems beginning with ι or υ seem to have followed the analogy of other initial vowels ; and no doubt the augment came to be regarded as nothing more than a lengthening of the vowel.

The separable character of the augment in Sanskrit and Homeric Greek is no proof that it is unessential. 'Language' (as Curtius well remarks) 'not unfrequently lays aside individual symbols of meaning, when by means of them forms have been

¹ 'Elucidations,' p. 110.

The Aug-
ment.

coined so distinctly marked, that the original elements are no longer absolutely necessary.' In Attic Greek it is never omitted except in *χρῆν* imp. of *χρή*; in a few instances at the beginning of lines in the speeches of *ἄγγελοι* in the Tragedians¹; and occasionally in pluperfect tense (but mainly in the Hellenistic Greek of the New Testament).

The position of the augment in verbs compounded with prepositions (Curtius, Greek Grammar, § 238) is due to the looseness of connection between verb and preposition. Where however the parts of a compound verb are not so separable, the augment is placed first: e. g. *ὠκοδόμησα* from *οικοδομέω*.

Apparent
irregulari-
ties in the
Augment
explained.

Certain apparent irregularities in the form of the augment (Greek Grammar, §§ 236, 7) may be explained by the loss of a consonant:—

(a) *ει* instead of *η* before *ἐθίζω*, *ἐλκω*, *ἐπομαι*, *ἐργάζομαι*, *ἔχω*, *ἔρω*, *ἐσπίαω*, *έαω*. With the exception of *έαω*, the origin of which is doubtful, it can be shown that all these verbs began originally with a consonant, and therefore had originally the syllabic augment *ε*, which after the loss of the initial consonant naturally coalesced with the following *ε* into *ει*: e. g. *Φεργάζομαι* ('work,' see p. 64), imp. *ἐΦεργαζόμεν*: (σ)έρπω (Latin *serpo*), *ἐ-σέρπον*, *ἐ-έρπον*: *Φελίσσω* (*volvō*), *ἐ-Φελίσσον*.

(b) Syllabic augment before a vowel in *ἔαδον* (*ἀνδάνω*), *έώθουν* (*ώθέω*), *έωνούμην* (*ώνέομαι*): e. g. *ἀνδάνω*=*σφανδάνω* (Latin *suavis*, cp. the Homeric form *εἴαδε*); *ώνέομαι*=*φωνέομαι* (Latin *vendo*). The loss of the consonant was perhaps in the first instance compensated for (p. 109) by lengthening the preceding vowel, i. e. the augment itself, whence such forms as Epic *ἡείδη*=*ἐ-Φείδη* (root *vid-*): but afterwards the reverse process took place and the following vowel was lengthened, whence such forms as *ἐ-ἦνδανον*, *ἐ-φνοχέει* (Homer), *ἐ-ώρων* (root *For-* in Latin *ver-eor*), *ἐάλων*, apparently with a 'double augment.' [Two exactly similar processes of compensation for the loss of *F(v)* are seen

¹ In such examples as Soph. Oed. Col. 1602, *ταχεῖ πῶρευσαν*, and 1608, *πατρός πεσοῦσαι κλαῖον*, we probably have instances of 'prodelision' of the initial vowel after a final vowel sound of the preceding word.

in the forms βασιλῆ-ος, βασιλέ-ος, both representing βασιλέ-ος Elements of Verb Inflection.
(stem βασιλευ-), see above, p. 111.]

(c) Doubling ρ after augment is generally owing to the fact that a consonant has fallen out before it; which consonant can sometimes be discovered by comparison with the kindred languages, e. g. in ἔρρεον=ἔ-σρεf-ον, Sanskrit *a-srau-a-m*, from root *srū-*, Sanskrit *srū-*, and in ἔρρεπον=ἔ-fρεπ-ον from a root *φρεπ-*, the *F* of which is seen in *καλα-ῦροψ*.

V. *The 'Connecting Vowel.'* In the ordinary conjugation of The connecting Vowel. Greek verbs, the person-endings are connected (especially in Present and Strong Aorist) with the stem by a vowel which appears as *o*, *ω* or *ε*—e. g. τύπτ-ω=τύπτ-ω-μι, τύπτ-ο-μεν, τύπτ-ο-ν-τι (Doric for τύπτουσι), ἔτυπ-ε-ς; and perhaps also as *a* in the Perfect Tense (γέγον-α, γεγόν-α-μεν) and in the accus. sing. of consonant stems πόδ-α-(ν), ἔχοντ-α-(ν). In Latin it appears as *o*, *i*, *u*—*leg-o* (=leg-o-mi), *leg-i-mus*, *leg-u-nt*; as *a* in *er-a-m* (=ās-a-m, Greek ἦα); and as *e*, *i* in Noun declension *ped-e-m*, *homin-i-bus*.

The nature of this vowel has been much disputed. Bopp (Comp. Gram. § 495) regarded it as a pronominal element 'through which the action or quality, which is expressed in the root in *abstracto*, becomes something concrete—e. g. the expression of the idea "to love" becomes the expression of the person "who loves." This however is the function of the person-ending; and besides, all analogy of language shows that 'concrete' conceptions are prior to 'abstractions.' Others (like Pott) take refuge in metaphor and call it the sinew (Nerv) of the verb: but this explains little, and leaves us to wonder why the verbs in -μ and the second principal conjugation in Sanskrit lack this 'sinew' altogether, without their vitality being impaired. Much more satisfactory and more consistent with facts is the view assumed by Curtius in his Greek Grammar and discussed more fully in 'Tempora und Modi' (pp. 39-52), that this vowel is not a suffix of any actual meaning, but a purely *phonetic* element. As Curtius points out, a definite meaning can only be ascribed to it on the supposition that it originally belonged to all verbs: whereas the history of language

Its origin phonetic.

The connecting
Vowel.

teaches us that in the oldest verbs, both of Sanskrit and Greek, it is wanting; nor have we any ground for assuming that they ever had it.

The most satisfactory hypothesis appears to be that of a 'connecting vowel,' a device of language whose primary occasion is to render easier the pronunciation of two contiguous sounds—as e. g. in the forms *βρεμ-έ-της*, *νεφεληγερ-έ-της*, *γεν-έ-της*, *gen-i-tor*, Sanskrit *gan-i-tā*; *φέρ-ε-τρον* beside *φέρρον*; Sanskrit *tup-i-tas* beside *τυπτός*; in such noun forms as *homin-i-bus*; and in verb forms like *λέγ-ο-μεν*, *πειθ-ό-μεθα*. In all these forms the pronunciation is rendered easier by the insertion of a connecting vowel: while forms like *τύπτ-μεν*, *πίθ-σθε* could hardly be pronounced at all without it. In its application therefore to verb inflection the principle of euphony coincides (as Curtius appositely remarks¹) with the effort to attain clearness, since the direct addition of person-endings to consonant-stems could not have been consistently carried out without the elision or modification of important consonants (e. g. the *m* or *s* of first or second personal pronoun), and consequent obscurity of meaning where clearness was all-important. In optative forms such as *λέγ-ο-ιεν* where the optative suffix *ja* is clearly retained in *ιεν*, there seems to be no opening for the view that *ο* is part of the stem; it connects the verbal stem and mood suffix. Other examples of its use will be noticed as they arise.

CLASSIFICATION OF VERBS.

A. Latin :—

Classifica-
tion of Verbs
in Latin.

The traditional classification into four 'Conjugations,' according to the vowel preceding *-re* in the Infinitive Mood, establishes, by a happy instinct rather than upon any scientific principles, a tolerably complete classification upon the same principle as that already applied to nouns (p. 101), viz. according to the final or 'characteristic' letters of the stem. The Latin Grammar gives us under its four heads :—

1. Vowel stems in *ā-* (*amā-*).
2. Vowel stems in *ē-* (*monē-*).

¹ 'Elucidations,' p. 129.

3. Consonant-stems and stems in *ī- ū-* semivowel (*reg-o*, *capī-o*, *tribu-o*). Classifica-
tion of
Verbs.

4. Vowel stems in *ī-* (*audī-*).

This division may be retained, but simplified into the broad distinction already drawn in case of nouns between (a) *consonant-stems* (including *i-*, *u-* semivowel), i. e. the '3rd conjugation,' and (b) *vowel-stems*, i. e. the 1st, 2nd, and 4th 'conjugations.' The fluctuating forms of tenses may be considered separately under the different 'tense-stems.'

B. Greek :—

The traditional classification of Greek verbs into verbs in *-ω*, In Greek. contracted verbs (in *-ῶ*), and verbs in *-μ*, though in itself far from scientific, may be to a certain extent utilised as the basis of philological analysis. The verbs in *-μ* (i. e. those which preserve in 1st sing. pres. act. the original ending *-μ*) stand in some respects apart as one form of conjugation, rarer, and for several reasons presumably older, than that in ordinary use: for (1) the pronouns which form the person-endings are less obliterated, and are added directly to the stem (*ἔσ-μέν*, *δίδο-τε*) without the introduction of a connecting vowel; (2) this form predominates in Sanskrit, and is more frequent in the oldest dialects of Greek; (3) the verbs in *-μ* contain the most elementary roots and denote the simplest ideas 'to be,' 'to give,' etc. Putting these aside as one form of conjugation, we may set on the other hand the conjugation of all other verbs (treating the fluctuating forms of tenses under the head of Tense-formation), dividing these according to the final letter of the Present-stem. Thus we have

I. Verbs in *ω*.

A. *Vowel-stems*.

1. Uncontracted, *λύ-ω*.
2. Contracted, *τιμά-ω*, *ποιέ-ω*, *δουλό-ω*.

B. *Consonant-stems*.

1. Guttural, *πλέκ-ω*.
2. Dental, *ψεύδ-ο-μαι*, *πείθ-ω*, *κομίζ-ω*.
3. Labial, *πέμπ-ω*, *λείπτ-ω*.
4. *Liquid*, *δέρ-ω*, *ἀγγέλλ-ω*.

Classifica-
tion of
Verbs in
Greek.

II. Verbs in MI.

1. Inflections of the Present joined directly to stem :

$\phi\eta\mu\acute{\iota}$.

2. Present stem formed by adding ν to the pure stem ; $\delta\acute{\epsilon}\iota\kappa\text{-}\nu\text{-}\mu\iota$. (These verbs belong to this conjugation only in respect of the inflection of the Present stem.)

This 2nd principal Conjugation (verbs in $-\mu\iota$) differs from the 1st (verbs in $-\omega$) only in the inflection of the Present and Strong Aorist stems : and here the basis of distinction is the presence or absence of the 'connecting vowel,' a distinction which appears in the same manner in Sanskrit, e. g. $\acute{a}s\text{-}mi$, $bhar\text{-}\acute{a}\text{-}mi$, compared with $\acute{\epsilon}\sigma\text{-}\mu\acute{\iota}$, $\phi\acute{\epsilon}\rho\text{-}\omega(\mu\iota)$. The inflections of persons themselves are not distinct in the two classes, except so far as the $-\mu\iota$ verbs retain a fuller and less impaired type of the person-endings—especially in their 'primary form' (see above, p. 153)—and offer greater facilities for tracing the origin of these inflections.

I. Person-endings (Active).

Person-end-
ings.
1 Sing.

1 *Sing.* : Sanskrit $-mi$, Greek $-\mu\iota$, from 1st pers. pronominal stem ma (weakened as in $mi\text{-}hi$, and German mir). Secondary form : $-m\acute{\iota}$, Greek $-\nu$, of imperf. and 2 aor. The full termination remains in pres. indic. act. of 'verbs in $-\mu\iota$,' in certain Homeric conjunctive forms, $\acute{\epsilon}\theta\acute{\epsilon}\lambda\omega\text{-}\mu\iota$, $\acute{\epsilon}\pi\omega\mu\iota$, etc. ; and in optative forms, $\acute{\tau}\acute{\upsilon}\pi\tau\omega\iota\text{-}\mu\iota$, $\acute{\tau}\acute{\upsilon}\psi\alpha\iota\text{-}\mu\iota$. In Latin it appears as $-m$ in two present tenses indic. sum and $inquam$, and in the terminations of 1 sing. imp. and plup. indic. and all subjunctive tenses throughout ; and in fut. indic. of consonant and \bar{i} -verbs. It remains also in English am , German bin .

1 Plur.

1 *Plural* : Sanskrit $-mas$, Greek $-\mu\epsilon\varsigma$ (Doric), Latin $-mus$.

Two explanations are given of this form, (1) that it = $m + as$ of plural nom. (as in $\acute{\pi}\acute{o}\delta\text{-}\epsilon\varsigma$, $\acute{\rho}\acute{\alpha}\delta\text{-}\alpha\varsigma$) : (2) that it = $ma\text{-}si$, i. e. 1st + 2nd pers. pron., so that 'we' = 'I + thou.' A form $-masi$ is actually found in Vedic Sanskrit. The ordinary $-\mu\epsilon\nu$ of Attic Greek arises from $-\mu\epsilon\varsigma$ by loss of s , and subsequent addition of ν $\acute{\epsilon}\phi\acute{\epsilon}\lambda\kappa\upsilon\sigma\tau\acute{\iota}\kappa\acute{o}\nu$.

1 *Dual* : Sanskrit $-vas$, a variation of nom. plur. $-mas$: cp. $va\acute{g}\acute{a}m$, nom. pl. of 1st pers. pronoun (p. 135). In Greek the

nom. plur. of active forms serves as nom. dual. Lithuanian ^{Person-}retains *-va*, e.g. *és-va*=(a)*s-vas*, nom. dual of Sanskrit *as-mi* ^{endings.} (*sum*).

2 *Sing.* The 2 pers. pronominal element *tva* (see p. 136), or 2 *Sing.* by loss of *v* sound *ta*, appears in Indo-European inflection with both consonant and vowel weakened, i.e. *t* by aspiration to *th* or *dh*, or by weakening to *s* (p. 73), and *a* weakened to *i*. The series of possible forms, then, of this suffix is *-ta*, *-tha*, *-thi* (*dhi*), *-si*, *-s*. Of these the last two are most generally found, as primary and secondary forms respectively; thus Sanskrit has in pres. indic *-si*, in imperfect *-s*; Greek *-σι* (as in *έσ-σι*, Ionic for *εἶ*) and *-s* (*ἔφερε-s*), the ordinary termination in *-εις* (*φέρεις*) being due to transposition from *φέρει-σι* (cp. *μέλαινα*=*μελάνια*, *γενέτειρα*=*γενετέρια*, p. 100). In Latin, *és*=*es-si*, *ēs* (*edo*)=*ed-si*, *legis*=*leg-e-si*.

The imperative 2 pers. suffix *-θι* (=Sanskrit *-dhi*) is an older ^{Changes of 2 sing. imper. -θι.} form, commoner in Epic dialect (*τέλα-θι*, *δίδω-θι*, *ῥρηνυ-θι*, etc.), but surviving in Attic forms like *γνώ-θι*, *ἴσθι*=*ἔσθι* from stem *εσ-*, or *ῖδθ-θι* from stem *ῖδ* (*δ* assimilated, p. 73), *ῖθι*, *στῆθι*, and 1 aor. pass. *τράπηθι*, *τύφθητι* (by dissimilation, p. 75). In ordinary Greek this termination is changed in various ways:—

(a.) The vowel is dropped, and *θ* changed into the sibilant (p. 33), whence *δός*, *θείς*, *σχέις* = *δό-θι*, *σχέ-θι*.

(b.) *θ* is dropped, and the preceding vowel lengthened in compensation, whence *ἴσση* (*ἴστα-θι*), *δίδου* (*δίδω-θι*), *δείκνυ* (*δείκνυ-θι*).

(c.) In 2 sing. imper. act. of ordinary conjugation, the termination is lost altogether, and final *-ε* of *τύπτ-ε*, etc., is the connecting vowel. In 1 aor. imper. *-ν* is added, and the *a* which is characteristic of the weak aorist stem sinks to *ο*- (*λίσο-ν*).

In Latin the termination *-dhi* of imperative has disappeared altogether, leaving the bare stem (or stem + connecting vowel), as *i*, *amā*, *es*, *curre*.

The oldest and least corrupt form of this inflection (*-ta*, *-tha*) is retained in the perfect-stem, e.g. Sanskrit *dadi-tha*=Latin *dedisti*; Sanskrit *vēt-tha* (stem *vid-*)=Greek *οἶσθα* (stem *ῖδ*)

Person-
endings.

[*fid* raised to *foið-* as Sanskrit *vid* to *vēd*: *oid-ra* becomes by dissimilation (p. 75) *oid-ra*, and this by influence of spirant (p. 33) *oid-tha*]; cp. *ῆσθα* (stem *es*)=*ῆs-ra*. In these two Greek examples the *σ* preceding *θα* is satisfactorily accounted for as part of the stem. But there are a number of other instances (chiefly in the Epic dialect) of *-σθα* as 2 sing. termination, where no such account of *σ* is possible, e.g. *βάλῃσθα*, *δύνησθα*, *βίλοισθα*, *προφύγοισθα*, *τίθησθα*, *φῆσθα* (indic.), all in Homer; *ἔχεισθα*, *φιλεισθα* (Aeolic); *ἐθέλησθα* (Theocr. 29. 4); *χρησθα* (Megarian, in Ar. Ach. 778). Various explanations have been given of these forms:—

2 Sing. form
-σθα.

(1) Bopp suggested that they were due to a false analogy from *οἶσθα*, *ῆσθα*, causing *-σθα* to be regarded as the termination. But we should expect to find the effects of such analogy either in *one* or *two* isolated cases, or carried to a much greater extent, as possibly is the case with the Teutonic termination *-st* (see below).

(2) On a comparison of Latin *-sti* of 2 sing. perf. ind., German *-st* (*bist*, *hast*, *gib-st*, cp. English *doest*), and the forms *-μεθα*, *-μεσθα*, of 1 plur. mid. in Greek (see p. 170), it is suggested that *-σθα* or *-sti* is a 'phonetic increase' of *-ta* or *-tha*, perhaps in compensation for loss of *u* sound from *-tva*, *-thva*. But the analogy of Latin *-sti* is at best doubtful; for another interpretation (see below) makes *is* in *ded-is-ti* a tense suffix as in *-is-se* infin., and perhaps originally part of verb *sum*. [The *-st* of the Teutonic languages is held by some philologists (e.g. Schleicher, Comp. § 272) to arise by false analogy (such as that supposed by Bopp for *-σθα*) from the case of dental stems, where *t*, *d* became *s* before *-ti*, e.g. Gothic *vais-t* (stem *vit*)=*Greek foiσ-θα*; this *-st* being first applied to all perfect stems, and then extended to all 2 pers. sing. as in German and English. With this view Bopp's view of *-σθα* as given above would of course harmonise; the difference being that the analogy is more consistently and naturally carried out in the Teutonic than in the Greek forms.]

(3) A much simpler explanation, as far as the Greek forms in question are concerned, is suggested by Schleicher (§ 272),

that these forms in *-σθα* are a later formation by the addition of ^{Person-endings.} *-ta* to the customary form ending in *s*, e. g. *ἔχουσ-θα*, *βάλουσ-θα*, etc. Language offers several analogies to such a re-creation of a grammatical form by the fresh addition of an element, which is there already, but obscured (e. g. *τέου-s*, *μέου-s*, p. 135): and the comparatively small number of forms (and that in an early dialect) in which it obtains may be due to the fact that an awakened grammatical knowledge saw the needlessness of such a repetition of the same element, and drove it out of the literary language¹. In any case the literary dialect of a nation is formed by the 'survival of the fittest' among a number of spoken forms; and it is quite conceivable that this form in *-σθα* may have been one of such by-forms, holding its ground still in Homer before the introduction of writing, but then disappearing. Nor is it necessary that the explanation of Greek *-σθα* should be uniform with that of Latin *-sti* or Teutonic *-st*, if we suppose that the development in question took place *after* the separation of these different branches of the Indo-European family.

2 *Plural*. If 1 plur. *-mas=ma-si*, 'I + thou,' we should 2 Plur. expect in 2 plur. a form expressing 'thou + thou.' No such direct evidence as the Vedic *-masi* of 1 plur. is forthcoming; Sanskrit has only *-tha* (primary) and *-ta* (secondary), as in *bhār-a-tha* pres., *abhara-ta* imperf., while Greek in all tenses has the weakened form *-te*. But Latin has *-tis*, which may represent *-tas*, i. e. *ta-si* (thou + thou): and Sanskrit in the dual retains a stronger form *thas*. There is therefore evidence for an original *-tas* or *-thas*, which is susceptible of either of the two explanations offered for 1 plur. *-mas* (p. 160). The Latin imper. form *-tote*, however, and Vedic Sanskrit *-tāt* seem to point to a doubling of the 2 pers. pronoun-stem.

2 *Dual*: Sanskrit *-thas* primary, *-tam* secondary. Greek *-rov* throughout, perhaps formed like *-μεν* of 1 plur. (p. 160) by addition of *-v*, or corresponding to Sanskrit *-tam*, which may

¹ It is possible that for this, and many other cases of the final settlement of dialectical forms, we are indebted to the Alexandrian grammarians.

Person-
endings.

be (as explained by Pott)=*tv-am*, *-am* being an appendage as in *aham*, *vajam* (see p. 135, and below on 3 dual).

3 Sing.

3 *Sing.* The demonstrative pronominal element *ta-* (in *τὸ-ν*, *οὐ-το-ς*, *is-to*, etc., see p. 148) is weakened to *ti-*; Sanskrit *as-ti*, Greek *ἐσ-τί*, *τίθη-τι* (Doric). This *τι* becomes *-σι* in *τίθη-σι*, *φησί*, etc., by the usual assibilation of *τ* before *ι*, as in *πλοῦτος*, *πλούσιος*; *ἐνίαυτος*, *ἐνιαύσιος*: so the *-τις* of abstract subst. is changed to *-σις* (*θῆ-σις*), but sometimes retained by the preceding consonant, as in *ἐσ-τί*, *πίσ-τις*. Doric retains *τ*, *φα-τίς*, etc. (p. 73).

The ordinary 3 sing. termination in *-ει* is sometimes explained as arising e.g. from *φέρει-σι* by loss of *σ* between two vowels. But it seems better to explain it on the analogy of 2 sing in *-εις*, as the result of transposition: *φέρει-τι* becoming *φέρει-ιτ*, and *τ* then falling off, as an inadmissible final sound. This would throw light on the original quantity of such forms as *legūt*, *regūt* in Latin, if we suppose an original *leg-e-ti*, *legeit*, *legūt*. In any case the final *-t* of Latin 3 sing. is the secondary form of *-ti*; Latin thus retaining the inflection consistently in all tenses, while Greek has lost it from the ordinary conjugation of verbs, except in *-τω* of imper., Latin *-tō*. Oscan has *-tūd*, and Vedic Sanskrit *-tāt* (see above on 2 plural), which point to a repetition of the pronominal element. [The *t* of 3 sing. inflection survives as *s* or *th* in English, *he carries*, *carrieth*; as *t* in German *ist*.]

3 Plur.

3 *Plur.*: Sanskrit *-nti*, *-n*; Greek *-ντι* (Doric), *-ν*; Latin *-nt*.

Thus, primary, *bharanti*, *φέρουσι*, *ferunt*.

secondary, *abharan*, *ἔφερον*, *ferebant*.

In Greek the termination appears only in Doric *ἐντί*, *φέρουσι*, in Attic Greek *τ* becomes *σ*, *ν* disappears, and the vowel is raised; so *φέρ-σ-ντι* becomes *φέρουσι*. Latin retains throughout the stronger form (see above, p. 16).

The imperative 3 plur. in both Greek and Latin exhibits peculiar forms: *φέρ-ό-ντω-ν* (Doric *φέρόντω*, Latin *ferunto*) seems to = Vedic Sanskrit *-ntāt* (*t* lost and *ν* added, see p. 160), and to correspond to Sanskrit *-ntu* of 3 plur. imper. The other

Greek form $\tau\omega\sigma\alpha\nu$ is a later formation, unknown to Homer: <sup>Person-
endings</sup> it is e. g. 3 sing. $\phi\epsilon\rho\acute{\epsilon}\omega + \sigma\alpha\nu = \sigma\alpha\nu\tau$, the remains of 3 plur. of $\acute{\epsilon}\sigma\mu$ (*asmi*), *asanti* (p. 16). This $\sigma\alpha\nu$ is also used to form a later 3 plur. opt. $\iota\sigma\tau\alpha\iota\eta\sigma\alpha\nu$, and appears in its primary form in 3 plur. perf. act., e. g. $\iota\sigma\alpha\sigma\iota = \text{fid-}\sigma\alpha\nu\tau\iota$.

[There is no evidence here for a formation analogous to that assumed for 1 and 2 plur., so that 'they' = 'he + he.' and all that we can say is that $-ti$ probably represents the demonstrative pronoun $-ta$ (as in 3 sing.), and that the element an or n in some way or other may give the notion of plurality.]

3 Dual: Sanskrit has primary $-tas$, secondary $-tam$; Greek 3 Dual. $\tau\omega\nu$ is primary = $-ta(s) + \nu$; $\tau\eta\nu$ secondary = $-tam$. Thus *bhār-atas* (pres.) = $\phi\acute{\epsilon}\rho\epsilon\tau\omega\nu$, *ābharatām* (imp.) = $\acute{\epsilon}\phi\epsilon\rho\acute{\epsilon}\tau\eta\nu$; $\tau\omega\nu$ of 3 dual imper. also = $-tam$, and so = $\tau\eta\nu$.

[$-tas$ might be explained as = $-ta, -sa$ (cp. $-thas$ of 2 plur., p. 163); $-tam$ may be (as Pott) = $ta + am$, a pronominal appendage (see above on 2 dual).]

Middle and Passive Inflections.

The name 'Middle' Voice, as applied to the Conjugation of <sup>Middle
Reflexiv
forms in
relation
Passive.</sup> Greek Verbs, conveys no notion of the real distinction of Middle forms, viz. their *reflexive* character, expressing the effect of the action of the verb upon the subject and not (as in the 'Active' forms) upon an external object. The term 'Middle,' implying something between the Active and Passive Voices, would naturally suggest that these latter are the original, the Middle a later development of language: whereas it has been established with tolerable certainty that language has generally developed the Passive from the Middle Voice in Verbs. In Sanskrit, for example, we find belonging to each tense two distinct sets of verbal terminations, corresponding (as we shall see) to the Active and Middle forms of Greek; but both *active*, and sometimes applied indiscriminately to transitive verbs. These are called respectively (1) '*Parasmai-pada*,' 'word¹

¹ *Pada*, = an inflected word as opposed to the uninflected root. The term refers only to a scheme of terminations, and does not necessarily carry with it the associations of 'voice' in the ordinary grammatical use of that term.

Middle
(Passive)
Inflections.

directed to another,' because the action passes (*parasmai*) to another object (cp. the term 'transitive' from *transire*); and (2) '*Ātmanē pada*,' 'word directed to oneself,' because the action is restricted *ātmanē*, 'to oneself' (dat. sing. of *ātman*, 'self'). These two schemes of terminations partly answer to the 'active' and 'middle' voice of Greek grammar. Thus, when a verb is conjugated in both *padas*, '*Ātmane-pada*' does not alter the idea expressed by the root, but directs the action in some way towards the agent or subject: e. g. *pakati*, 'he cooks,' *pacate*, 'he cooks for himself;' *namati*, 'he bends,' *namate*, 'he bends himself.'

Passive Verbs in Sanskrit are conjugated in *Ātmane-pada*. But while in Greek and Latin a verb in the Passive voice corresponds in form to the same verb in the Active voice, the terminations only being changed; in Sanskrit a passive verb is a separate derivative from the root (as e. g. causal desiderative or frequentative verbs are) formed on one invariable principle without any necessary connection with the conjugational structure of the active verb, but using the '*Ātmane-pada* terminations, e. g. *bhār-a-ti* (*φέρει*), *bhār-a-te* (*φέρει*, middle); but *bhar-yā-te* (*φέρει*, pass.) by insertion of the stem suffix *ya*¹.

The evidence of the Sanskrit Verb, in addition to the obvious fact that in Latin but one form (and that, as we shall see, in its origin *reflexive*) serves for Middle and Passive, while in Greek (though there are some special Passive forms) the same form serves for both in certain tenses, supports the conclusion that the original distinction is between 'Active' and 'Reflexive' terminations; but we may speak of these latter under the currently accepted terms of 'Middle' (or Medio-Passive) inflections.

Middle (Pas-
sive) forms
in Latin.

The Middle or so called 'Passive' Inflections of the Latin verb may be considered first, not as being older, but as exhibiting most distinctly this reflexive character. They are formed (with the exception of 2 pers. plur.) by suffixing the reflexive

¹ See Monier Williams' 'Sanskrit Grammar,' §§ 243b, 461.

pronoun *se* to the Active Voice; the *s* of *se* generally passing Middle (Passive) forms in Latin. by the euphonic laws of Latin into *r* which is the familiar characteristic of the Passive terminations. Thus to take the Present Tense:—

1 Sing.: *amo-se, amore, amor.*

2 Sing.: *amasi-se, amarise, amaris* (or possibly, by introduction of a connecting vowel, from the ordinary *amas, amas-u-se, amasus, amaris*. See on 3 sing. and cp. a form *utarus = utaris* on an inscription).

3 Sing.: *amat-u-se, amatur* (*u* being connecting vowel).

1 Plur.: *amamu(s)-se, amamur* (or? *amamus-u-se, amamur-ure, amamur*).

2 Plur.: *amamini* (sc. *estis*) is really a nom. plur. of a participial formation analogous to Greek *-μενο-*, the singular of which is found in Old Latin for 2 and 3 pers. imper. *præfamino, progredimino* (i. e. *præfaminos sis*). The formation of *amamini* (*estis*) is therefore precisely analogous to that of the perf. pass. *amatus sum, es, est*, etc. The form *amaminor* (2 plur. imper.) given in grammars is probably due to false analogy, *r* being added as the characteristic passive sign: and is supposed by some to have had no existence except with the grammarians.

3 Plur.: *amant-u-se, amantur.*

The same formation is traceable throughout (except where a participle with auxiliary verb is employed, as in perf. and 2 fut.): thus imperf. *amabam-se, amabār*: imperat. *ama-se, amare, amato-se, amator*: *amanto-se, amantor*.

From this it appears that 'Deponent' Verbs are wrongly so termed, as if they had laid aside (*deponere*) a passive meaning. They are rather to be looked upon as the survival of an earlier stage of language prior to the superseding of the original Middle or Reflexive by the later Passive force of these inflections.

The Middle Inflections in Greek have more affinity with those of Sanskrit, and the explanations offered of both rest upon much less sure ground than that given of the Latin medio-passive. Like the active person-endings they are capable Middle and Passive inflections in Greek. Theories of their connection with Active form

Middle
(Passive)
Inflections
in Greek.
Theories
of their
formation.

of a primary and a secondary form (-μαι, -σαι, -ται, etc., pres. -μην, -σο, -το, etc. imperf.); and these are obviously formed by some increase of or addition to the corresponding active terminations. But as to what the precise connection is, 'Grammatici certant et adhuc sub judice lis est.' I give some of the solutions that have been proposed: but the question cannot be determined with any certainty.

1. That in -μαι, -σαι, -ται, etc. we have a similar formation to that of the Latin Passive—viz. the addition of the reflexive pronoun (-sua) to the pronominal elements from which the active person-endings arise. This -sua, Greek -σφε, -σε or -σι, would if thus suffixed give such forms as *ma-si*, *sa-si*, *ta-si*, *nta-si*, and the falling out of *s* between two vowels in Greek (p. 67) would leave the Greek -μαι, -σαι, -ται, -νται. The recommendation of this view, if it could be maintained, would obviously be that it brings Latin and Greek into harmony upon a point where otherwise they must be regarded (and have generally been regarded) as at variance. Most comparative grammarians, however, appear content to accept such variance in the formation of these inflections as fundamental, regarding the Latin (shared by Lithuanian and Keltic) as later; and uphold one of the two remaining theories, viz.—

2. That -μαι, -σαι, -ται, etc. are formed from the active voice by Vowel Intensification (see p. 50), *ai*, Sanskrit *ê*, being the natural raising or intensification of *i* to express a change of meaning. The objection to this view is that we find Vowel Intensification employed in the formation of stems, as an agent in Word Formation, but not in Inflection, which in all cases consists in the addition of suffixes.

3. That -μαι, -σαι, -ται, etc. are abbreviations from *ma-mi*, *sa-si*, *ta-ti*, etc., i.e. that language expressed the 'reflection' of the action upon the agent by adding the pronouns *twice over* to the verbal stem, once as object case and once as nominative. Against this view it is urged (1) that, if in the doubling of pronominal elements in the plural of active inflections (see above, p. 160) both elements remained, so to speak, in the *nominative* case (e.g. *mas*=ego + *tu*), it is inconsistent that

precisely the same phenomenon in the middle voice should give the different result of *me* (*mihî*) + *ego*; (2) that if *-mai*, *-sai*, *-tai* are explained in this way, we ought to find similar forms in the plural (= *mas-mas*, *thas-thas*, etc.); (3) that while the dropping out of *s* and *t* supposed by this theory in 2 and 3 pers. may be justified by phonetic analogy, that of *m* in 1 pers. *ma(m)i* cannot be so justified. [It is, however, paralleled in Sanskrit *bharē*=*bhar-a-mē* (*mai*) compared with *φέρ-ο-μαι*.] Middle
(Passive)
Inflections
in Greek.

Upon the whole, this latter theory meets with most favour, and it is that adopted by both Bopp and Schleicher. We may perhaps, therefore, adopt it as *presumably* the correct account of the Greek middle inflections, or at any rate the best 'working hypothesis' for deducing an explanation of them.

The Middle Inflections of the Greek Verb will then be as follows:—

1 *Sing.*: Primary form, *ma-mi*, *mai*, Greek *-μαι*, Sanskrit *mê*. [In Sanskrit the initial *m* also disappears, and we find *bharê*=*bhar-a-mê*=*φέρομαι*.] Secondary *mam*, Greek *-μην* of imperf. mid. Sanskrit has *ê* as in primary form; *abhare*=*ἐφερόμην*.

2 *Sing.*: Primary form, *-sa-si*, *-sai*, Sanskrit *-se*. In Greek *-sai* is retained in verbs in *-μι* and perf. tense; *ἵστα-σαι*, *τέτυψαι* (*π-σαι*). Epic forms like *λαλαίει*, *δίζηται* (Od. xi. 100) *δρῆται* (Od. xiv. 343) have only lost the initial *σ*; later *-εαι* was contracted into *-ει* as in *φέρει*=*φέρει(σ)αι*; and later again into *-η* as in *φέρειη*.

Secondary form *-sas*, *-sa*, Greek *-σο*, retained in imperf. of *-μι* verbs (*ἐτίθεσο*) and plup. tense *ἐτέτυψο* (*π-σο*). Epic forms with loss of *σ* only—*ἐμάρναο*, *παρίσταο*, *ἔθεο* etc.; cp. the forms *δρῶσθ*, *δέξθ*, *λέξθ* from *δρσε-σο* etc. In ordinary Greek *ε(σ)ο* becomes *-ου*, *ἐφέρου*=*ἐφέρεσο*: so in 2 aor. of *-μι* verbs, *ἔθου*, *ἔδου* and imper. *θού*, *δοῦ*.

3 *Sing.*: Primary form, *-ta-ti*, *-tai*, Sanskrit *-té*, Greek *-ται* retained throughout. Secondary, *-ta-t*, *-ta*, Greek *-το* (*ἐφίετο*, Sanskrit *a-bhar-a-ta*). In the imperative we find *-σθα*, a form which recalls the *-σθα* of 2 sing. act. (see p. 162) and the explanation of which is equally uncertain. The most

Mood-signs. general term 'Subjunctive (Dependent or Hypothetical) Mood,' by which the supposition of a fact or action is distinguished from its direct statement in the 'Indicative Mood.'

Conjunctive, in Greek. (a). The Conjunctive suffix is *a*, which with the final vowel of a stem or with the connecting vowel (*a*) becomes *ā* (Greek ω , η), *bhar-a-mi* pres. indic., *bhar-āmi* pres. subj. In Greek the long vowels ω (1 sing. and plur., 3 plur.) and η are characteristic of the conjunctive in all verbs. In the case of ω verbs, this long vowel is explainable as the result of the combination of the mood-sign *a* with the connecting vowel *a* (ϵ , o), e.g. from $\phi\acute{\epsilon}\rho\text{-}\sigma\text{-}\mu\iota$ the conj. is $\phi\acute{\epsilon}\rho\omega\mu\iota$. But in the conjugation of verbs in $\text{-}\mu\iota$ no connecting vowel is used (p. 160), and here the long vowel must be explained as the result of analogy, ω , η being regarded as the characteristic mood signs. Thus from $\epsilon\iota\mu\iota = \epsilon\sigma\text{-}\mu\iota$ we have in conjunctive—

- | | |
|---------|---|
| 1 Sing. | $\acute{\epsilon}\sigma\text{-}\omega\text{-}\mu\iota$, $\acute{\epsilon}\sigma\omega$, $\acute{\epsilon}\omega$, $\tilde{\omega}$, |
| 2 „ | $\acute{\epsilon}\sigma\text{-}\eta\text{-}\sigma\iota$, $\acute{\epsilon}\sigma\eta\sigma$, $\acute{\epsilon}\eta\sigma$, $\tilde{\eta}\sigma$, |
| 3 „ | $\acute{\epsilon}\sigma\text{-}\eta\text{-}\tau\iota$, $\acute{\epsilon}\eta\tau\iota$, $\acute{\epsilon}\eta\sigma\iota$, $\acute{\epsilon}\eta$, $\tilde{\eta}$, |
| 3 Plur. | $\acute{\epsilon}\sigma\text{-}\tilde{\omega}\text{-}\nu\tau\iota$, $\acute{\epsilon}\tilde{\omega}\nu\tau\iota$ (Dor.), $\acute{\epsilon}\omega\sigma\iota$, $\tilde{\omega}\sigma\iota$, |

following the analogy of the ordinary conjugation. In Homer, however, we find a few relics of what we should expect where terminations are added directly to the stem, viz. a *short* vowel = *ā* as the conjunctive mood-sign, e.g. $\acute{\iota}\text{-}\sigma\text{-}\mu\epsilon\nu$, $\phi\theta\acute{\iota}\text{-}\epsilon\text{-}\tau\alpha\iota$, etc.

In Latin. In Latin, the conjunctive suffix *ā*, answering to Greek ω , η , appears in the pres. subj. of 2nd, 3rd, and 4th conjugations (consonant and \bar{e} and \bar{i} stems); e.g. *mone-ā-m*, *leg-a-mus* (= $\lambda\acute{\epsilon}\gamma\text{-}\omega\mu\epsilon\varsigma$), *leg-a-tis* (= $\lambda\acute{\epsilon}\gamma\text{-}\eta\text{-}\tau\epsilon$), *audi-a-m*. In *a*-stems (1st conj.) the mood sign is \bar{e} (*am-e-m*) and a few verbs have \bar{i} , e.g. *sim*, *nolim*, *possim*, *edim*, *duim*: but this \bar{e} and \bar{i} are both probably optative forms (see below, p. 174–5). The imperf. and plup. subj. in all verbs have \bar{e} as mood-sign; *amar-ē-mus*, *regiss-e-mus*. The perfect has originally \bar{i} , which however (from confusion with the completed future indic.) often becomes \bar{i} in dactylic poetry: just as in the completed or 2nd fut. indic. \bar{i} is often treated as \bar{i} . Thus we find—

Perf. Subj. $\text{-}\bar{e}\bar{r}\bar{i}\text{-}$: *dederitis* (Ennius), *fuēris* (Horace), *respueris* (Tib.), *dederis*, *credideris* (Ovid).

-erī: *egerimus, respexeris* (Verg.), *dixeris* (Hor. in Mood-signs. hexameters *suspexeris*).

2nd Fut. Indic. -erī: *viderimus* (Lucretius), *dixeritis* (Ovid), (Verg. Georg. iv. 59).

-erī: *dederitis, transieritis*, etc. (Ovid), *fecerimus* (Catullus) *dederis, miscueris*, etc. (Hor. in hex.), *dederis* (freq. in Prop. and Ovid).

[As in Latin the conjunctive and optative coalesce into one subjunctive Mood, we might expect a mixture of conj. and opt. forms, such as we actually find. Roby (Lat. Gr. i. § 593) suggests that the proper Latin mood-suffix was *ī* (seen in the Greek optative), which contracted with a preceding *ā* to *ē*, e.g. *ama-s, ama-i-s, amēs*; but as *i* suffixed to the present indic. of any other than *ā* verbs would give the same form when contracted, an *ā* (seen in Greek conj.) was substituted. This, however, would not be true of consonant stems proper, where there was no opportunity for contraction, e.g. *leg-o, leg-i-m*: and it would have to be supposed that the *ā* form was extended by analogy to these. On the whole it seems best to admit the confusion of forms, and explain each separately, without reducing them to uniformity.]

(b). Optative. The suffix is *ja* (retained in 3 plur. act. of Optative Greek λέγο-ι-ν) usually raised to *jā*, or *i*: in Greek, *ι, η, ι*. The verbs in -μ retain the longer form of the suffix (*η*) in the Active Voice, the shorter (*ι*) in the Middle, e.g. :—

1 Sing.	ἰδο-ι-ν	compared with	ἰδο-ί-μην
2 "	ἰδο-ι-ς	"	ἰδο-ί-(σ)ο
3 "	ἰδο-ι-η	"	ἰδο-ί-το
3 Plur.	ἰδο-ι-ν	"	ἰδο-ί-ντο
	= ἰδο-ί-εντ.		

Verbs of the ordinary conjugation have the shorter form of the suffix, which coalesces with the preceding *o* (whether this be regarded as connecting vowel or an addition to the stem, assimilating all stems to *a* stems, makes no difference here) into the diphthong *oi*, e.g. *φέρο-ι-μι, τύπτ-ο-ι-μι*. In 3 plur., however (as with -μ verbs), the longer form is retained in its most primitive shape (*ι=jā*), e.g. *φέρο-ι-ν, τύπτ-ο-ι-ν*. With the longer form of suffix the secondary, with the shorter form the

Mood-signs. primary person-endings are found. 'Contracted' verbs in -ω employ both forms of the mood-sign with corresponding variety of person-endings: thus from τιμάω (= τιμάο-μι) we find pres. opt. τιμάο-ι-μι, τιμῶμι, and τιμαο-ίη-ν, τιμῶην.

The strong (2nd) aor. opt. is formed like the present: e.g. δο-ίη-ν, δο-ί-μην, τύπ-ο-ι-μι, etc.

The weak (1st) aor. employs ι as mood-sign, retaining its characteristic stem-letter α, λύσα-ι-μι, λυσα-ί-μην.

The passive aor. employs ιη as mood-sign with secondary person-endings, λυθε-ίη-ν, τυπε-ίη-ν.

Optative
forms in
Latin.

Optative forms are traceable here and there in the Latin verb. Compare for example the parallel forms of pres. opt. from root *as* (*es*, *es*) in Sanskrit, Greek, and Latin:—

1 Sing.	s-jā-m (= as-ja-m)	εἶην (= ἐσ-ίη-ν)	s-iē-m (= es-ie-m)	sim
2 „	s-jā-s	εἶης (= ἐσ-ίη-ς)	s-iē-s (= es-iē-s)	sis
3 „	s-jā-t	εἶη (= ἐσ-ίη-τ)	s-iē-t (= es-iē-t)	sit
1 Dual	s-jā-va			
2 „	s-jā-tam	εἶή-τον, εἶτον		
3 „	s-jā-tām	εἶήτην, εἶτην		
1 Plur.	s-jā-ma	εἶημεν, εἶμεν		simus
2 „	s-jā-ta	εἶητε, εἶτε		sitis
3 „	s-jus	εἶεν (= ἐσ-ίε-ντ)	s-ie-nt (= es-ie-nt)	sint.

[εἶη-σαν a later form, see p. 165.]

The evident correspondence of this old Latin form *siem*, later *sim*, with the parallel optatives of the Sanskrit and Greek verbs, is irresistible evidence that in other so-called conjunctive forms in -im, -is, -it, we have *optative* formations. Thus *velim* = *vel-ie-m*, *duim* (common in Plaut. and Ter. and in old legal language, cp. *Di te perduint* used by Cicero) = *daim* = *da-ie-m*, which corresponds to Greek δο-ίη-ν. So *edim* from *edo* (Hor. Epod. iii. 3; Sat. II. viii. 90¹): *temperint*, *coquint* (XII Tab.).

There is also reason for supposing that the subjunctive present of *a* stems, in which *e* is the characteristic letter, is

¹ In Verg. Aen. xii. 801, 'Ne te tantus *edit* tacitam dolor,' Ribbeck's correction, *edit*, is accepted by Conington: Forbiger, Gosnaue, Heyne, Wagner, and others, retain *edat*. See Conington's note, ad loc.

an optative form. Beside *stet* is found Oscan *sta-it*=Greek *στα-ῖν*-(τ), which points to *sta-ie-t*, *sta-ī-t*, as the origin of the Latin form. Thus *amem*=*ama-i-m*=*ama-ie-m*: cp. Umbrian *porta-ia(t)*=*portet*, and Greek *τιμα-ο-ῖν*, *τιμῶην*. Optative forms in Latin.

The 'future indicative' of consonant-stems (3rd conjugation) in *-em*, *-es*, *-et* appears also to be an optative form, e. g. *dicem*=*deic-a-i-m*: *a* being here the vowel which in Greek appears as *o* (see pp. 34, 53), as in *φέρ-ο-ι-μ*, *τύπτ-ο-ι-μ*.

III. Tense-stems.

These have been briefly classified above (p. 154), and we may proceed to discuss them in the order there observed.

1. Perfect-stem:—

The most characteristic feature of the Perfect-stem in Indo-European languages is Reduplication, i. e. doubling the verbal root. The object of this 'dynamic change' is to express *completed action*; and for this purpose language availed itself of the same means or instrument, by which (as we have noticed above, p. 49) frequentative and desiderative verbs are often formed, and any strengthening of the idea of a word is expressed. The earliest conceivable form would be a simple repetition of the root, with a further root indicating the subject, —*vid vid ma*. The 'agglutinative' stage of language would give *vidvidma*; and the inflectional stage is marked by frequently raising the vowel of the second root and shortening the first by loss of its final letter, e. g. *vivaidma*; the process which is seen in so many Greek perfects, e. g. *λέλοιπα* (stem *λιπ-*), *πέποιθα* (π*ι*θ-), etc. Formation of Perfect-stem. Reduplication.

The Greek language both in the *form* of its perfect-stem, Greek Perfect. by the almost universal employment of reduplication, and in its *usage*, by restricting the perfect-stem to the expression of the original idea of completed action, displays an antiquity superior to that of Latin; which, as we shall see below, forms its perfect stem in four or five different ways (by reduplication least of all), and uses its perfect-tense as an aorist. Reduplication, therefore, gives to the Greek perfect-stem, in spite of differences in the mode of formation, a unity which it is vain to look for in Latin.

Greek
Perfect.
The redupli-
cated sylla-
ble.

The reduplicated syllable usually contains the initial letter of the root with the vowel *ε*, representing original *α* the commonest root-vowel. Apparent exceptions are due to the phonetic tendency towards easier articulation: thus an aspirate is represented by a corresponding tenuis; *πέφηνα* (*φαν-*), cp. *τίθημι*; while of two initial consonants only one is repeated, and that only when it is a mute followed by *λ, μ, ν, ρ*, e. g. *γέγραφα, πέπληγα* (*πλαγ-*), *πέπνευκα* (*πνυ-*). [Exceptions are *γν, γλ*, and sometimes *βλ—ξ-γνω-κα, ξ-βλάστη-κα*: and on the other hand the stems *κτα* and *μνα* have *κέ-κτη-μαι, μέ-μνημαι*. In *πέπτωκα* an *ε* has fallen out between *πτ*.]

In all cases but those specified, a stem beginning with two consonants has only *ε* for its reduplication,—*έκτονα, έζήτηκα*, etc. The similarity of sound with the augment (p. 155) which is thus occasioned is, of course, purely accidental: and it is incorrect to say that any verb forms its perfect 'by prefixing the augment.'

Initial vowels are raised, as *ορθό-ω, ὄρθωκα*: but some stems with initial *α, ε, ο*, take 'Attic Reduplication,' i. e. either (1) doubling the whole root (*ἰδ-ῶδ-α*, root *ἰδ-*), or (2) repeating the first syllable only of the root or stem (*ἀλείφω*, stem *ἀλειφ-*, *ἀλ-ήλιφ-α*; *ἐλαύνω, ἐλα-, ἐλ-ήλα-κα*). This 'Attic' Reduplication is most frequent in Homer, e. g. *ἀρήροται, ἀλάλημαι*, etc. Herodotus has *ἀρ-αίρη-κα* from *αίρέω*¹.

The forms *έ-άλω-κα, έ-ᾶγ-α, έ-οικ-α, έ-ώνη-μαι*, are due to the loss of an initial consonant of the respective stems (*F*). Homer has *έ-ῶλπ-α* (*ῥελπ*), *έ-οργ-α* (*ῥεργ*, our *work*): see above ch. iv. p. 64.

Certain verbs with initial consonant have *ει* for reduplication, e. g. *εἴληχα, εἴληφα, εἴμαρται*.

The root-vowel is generally, but not invariably, raised. It appears that originally this raising was confined to the singular number; a fact which explains the apparent anomaly of *ἴδ-μεν, ἴσσε*, etc., in the dual and plural of *οἶδα*. The conjugation of this particular perfect-stem is remarkably illustrated by Com-

¹ See Curtius' 'Greek Grammar,' § 275.

parative Philology. The verbal stem is *fid*, *vid*, which reduplicated and raised as above would give *vivaid(m)a*: but the reduplicated syllable has disappeared in all the kindred languages. Thus we have :—

Greek
Perfect.

Raising the
verbal-stem.

	Sanskrit.	Greek.	Gothic.	Latin.
Stem.	vid-	<i>fid</i>	vit-	vid
1 Sing.	véd-a	<i>foīd-a</i>	vait	vidi
2 „	vét-tha	<i>foīd-tha</i>	vais-t	vidisti
3 „	véd-a	<i>foīd-e</i>	vait	vidit
1 Dual	vid-vá		vit-u	
2 „	vid-áthus	<i>fīd-ton</i>	vit-u-ts	
3 „	vid-átus	<i>fīd-ton</i>		
1 Plur.	vid-má(s)	<i>fīd-men</i>	vit-u-m	vid-i-mus
2 „	vid-á	<i>fīd-te</i>	vit-u-th	vidistis
3 „	vid-ús	<i>fīd-sa-si</i> = <i>fid-sānti</i>	vit-u-n	viderunt.

In Sanskrit can be seen the regular working of laws of accent which required this change from sing. to dual and plural in the perfect stem. In Greek, analogy has carried the raising of the stem right through the conjugation of this tense, e. g. *λέλοιπα*, *λελοίπαμεν* (for *λέ-λιπ-μεν*): but the impress of the laws in question remains, as we see in *οίδα*, *ἴσμεν*; in *ἔικτον* from *ἔ-οικ-α* (stem *εἰκ-*), *ἐπέπιθ-μεν* plup. plur. from *πέ-ποιθ-α* (stem *πιθ-*); and in the shortened plural forms of perf. *βέβᾶμεν*, *τέτῃᾶμεν*, *τέτλᾶμεν*, *ἔστᾶμεν*, *δέδιμεν*. Latin has lost all trace of it; but it survives as above in Gothic, and in modern German *Ich weiss*, 'I know,' *Wir wissen*, 'we know.' [A similar change of quantity, inexplicable at first sight, between *δείκνυμι* and *δείκνυμεν*, *δάμνημι* and *δάμνάμεν*, and similar words, is illustrated by the working of the accent in Sanskrit, where exactly the same change is produced, but with greater regularity. In all these cases, Greek has lost the consciousness of the original motive power for the change, retaining with uniformity of accent the results of a difference (cp. e. g. *véd-a*, *vid-má* with *οίδα*, *ἴσμεν*). These survivals, however, were but few, and the natural

process of analogy brought about the complete uniformity of
 λέλοιπα, λελοίπαμεν.]

'Strong' and
'Weak' Per-
fect.

Two forms of Perfect Active must be distinguished in
 Greek:—

1. *Strong Perfect*, formed directly from the stem—πράσσω,
 πέ-πρᾶγ-α; τίκτω, τέ-τοκ-α; λείπω, λέ-λοιπ-α: α being the con-
 necting vowel between the stem and inflections, as in λελοίπ-α-
 μεν. (Schleicher and others regard the α, like ο of φέρομεν,
 as part of the stem.) The Strong Perfect occurs almost en-
 tirely in the case of 'radical' verbs (i. e. whose verbal stem
 is a root, e. g. λύ-ω); and is generally the older and rarer
 form.

2. *Weak Perfect*, formed from the stem by insertion of κ,—
 ἔσταλ-κα, κέ-κρι(ν)-κα; the only form in use in vowel stems, and
 the most common with stems ending in τ, δ, θ, μ, ν, λ, ρ. The
 origin of this element κ is unknown: it can be seen in Homer
 inserted in the first instance after vowels, e. g. τεθνηκώς beside
 τεθνηώς.

The aspiration of the final stem letter in forms like γέ-γραφ-α
 (γραφ-), ἐνένοχ-α, ἐτέλεθ-α, etc. is probably a mere phonetic altera-
 tion without any definite reason. It is unknown to Homer,
 who has e. g. κεκοπώς, not κεκοφώς the usual Attic form: and is
 found in comparatively few verbs.* Curtius (Tempora und Modi,
 p. 195) enumerates 21 aspirated perfects, most of them not
 found before Polybius; and in his 'Elucidations' (p. 127 Eng-
 lish Translation) he adds 5 others. Bopp regarded these aspi-
 rated perfects as a distinct formation, a view which is sufficiently
 refuted by Curtius (Elucidations to Greek Grammar, § 272,
 pp. 123-128, English Translation).

Perfect Mid-
dle and Pas-
sive.

The term 'Perfect Middle' applied to e. g. γέ-γον-α is
 erroneous. A Perfect Middle or Passive can only be formed
 in one way, viz. by affixing Middle person-endings without
 a connecting vowel to the reduplicated stem, as λέ-λυ-μαι,
 τέτυμμαι=τέ-τυπ-μαι. The final consonants of consonantal stems
 change by the laws of assimilation before the initial μ, σ, τ of
 the inflections, as in the following table:—

Final Letter of Stem assimilated. } (See pp. 60-74.)	Before μ.	Before σ.	Before τ.	Examples.		Perfect Middle and Passive.
				Stem.	Perf. Pass. Inflec.	
All Gutturals to	γ	κ (ξ)	κ	πλεκ-	πέ-πλεγ-μαι πέπλεξαι	
„ Dentals „	σ	rejected	σ	λεγ- πιθ-	λέλεκ-ται πέπεισ-μαι πέπει-σαι	
„ Labials „	μ	π (ψ)	π	γραφ-	πέπεισ-ται γέγραμ-μαι γέγραψαι γέγραπται	

The *Pluperfect Middle and Passive* differs from the Perfect only in prefixing the augment (see p. 155), and in having the secondary Person-endings. The Pluperfect Active is a composite tense and will be treated below (p. 204).

Latin Perfect-stem :—

There are several different ways of forming the perfect-stem : Formation of Latin Perfect-stem.
viz.—

(i.) *Reduplication* ; only in about 27 verbs, and with some of these only in archaic Latin (e.g. *te-tuli*, *te-tini*, *sci-cidi*). Of two initial consonants, the second is treated as initial, and both are retained (unlike Greek) in the reduplicated syllable ; e.g. *ste-ti* (*sta-*), *spo-pond-i* (*spond-*). 1. Reduplication.

The vowel in the reduplicated syllable often (as in Greek) sinks to *e*, especially where the root vowel is *a* or a weakening of *a* ; *dedi* (*da-*), *cecini* (*can-*), *peperi* (*par-*), *cecidi* (*caed-o* = *caid-*), *te-tuli* (root *tol* = *tal*). In compound verbs the reduplication often disappears, e.g. *pepuli*, *expuli* ; *cucurri*, *decurri* : but remains in compounds of *do*, *sto*,—*abdididi*, *abstisti*. *Reppuli*, *rettuli*, *repperi*, etc. (sometimes explained as the result of assimilation from *red*, the earliest form of *re*) perhaps = *repepuli*, *re-tetuli*, etc., *e* disappearing.

the root syllable *a* of present sinks to *e* (or *i*) before two consonants or *r* (p. 57) ; *e* becomes *u* before *l* (*pepuli*, *pello*, *sepultus*, *sepelio*).

Latin Perfect-stem.
2. Raising Stem-vowel.

(ii.) *Raising the Stem-vowel* (without reduplication—Greek employs both);—*fāve-o, fāvi*; *āgo, āgi*; *jācio, jēci*; *lēgo, lēgi*; *vīdeo, vīdi*; *rumpo* (stem *rūp-*), *rūpi*, etc. Some explain the length of the root syllable in these perfects by the absorption of a reduplicated syllable: i. e. *jēci=jejici*, *lēgi=legigi*; or, where *v* is final stem consonant, by absorption of a suffixed *v* (see below iv): i. e. *fāvi=fāv-vi*. But the analogy of Greek perfect-stems (above, p. 176) where vowel-raising and reduplication go together, perhaps points to a similar account of this formation in Latin: one part of the process is lost, but the other remains.

3. Suffixing
-s-

(iii.) *Suffixing -s* (perfect in *-si*) to consonant-stems; a later form, sometimes found side by side with the older reduplicated perfect: e. g. *punxi* (*-csi*) by *pupugi*; *panxi* (*pang-si*) by *pepigi*; *intellexi* (*leg-si*) by *lēgi*. For illustrations see Roby's Latin Grammar, i. §§ 670–675. The termination *-s-i* is supposed to = *es-i*, a perfect formation from the stem *-es*, and therefore analogous to the *-σα* of Greek weak (first) aorist stem. Strictly speaking, this perfect is a 'weak' or composite tense, and (with the perfect in *-vi* or *-ui*, mentioned below) is sometimes classed separately under the head of 'Weak Perfect-stem;' numbers i and ii being the 'Strong Perfect-stem;' but it seems more convenient to arrange all varieties of the Perfect-stem together.

4. Suffixing
-ui or -vi.

(iv.) *Suffixing -u* (*-ui*) to consonant-stems, or *-v* (*-vi*) to vowel-stems, as with most regular verbs in *ā*, *ī*, *amavi*, *audi-vi*; *ē* stems with a few exceptions (*abolevi*, *delevi*, and *quievi*, etc. from inchoative pres. *quiesco*) drop the final *ē* and form the perfect as though from a consonant stem, *mon(e)ui*, *ferb-ui*, and from some *ā*-stems are found similar forms, e. g. *crep-ui*, *cub-ui* (rarely *crepa-vi*, *cuba-vi*); also from pres. *-io*, infin. *-ire* (*ī* being dropped), *aper-ui*, *salui*.

The perfect form in *-vi*, *-ui*, is found in a considerable class of verbs with a Present-stem (see below, p. 186) increased by *n* or *sc*, e. g. *lino*, *livi*, or *levi*; *sino*, *si-vi*; *cre-sco*, *cre-vi*. In *sternui* from *sterno*, *trivi* from *tero*, the stem originally con-

sonantal becomes a vowel-stem by metathesis of the vowel and ^{Latin Perfect-stem.}
r : *pōs-ui* is from *pōs-no*, contracted, *pōno*.

In certain verbs whose stems end in *u*- (*acuo*, *arguo*, *tribuo*, *-ui* or *-vi*. *statu-o*, etc.) the *-ui* of the perfect arises from loss of *v*, *u* being the stem-letter, e.g. *statui*=*statu-vi*. In some other verbs the apparent identity of perfect- and present-stem may arise from loss of reduplication (*pandi*, *verti*, etc.).

N.B. The perfect-stem formed by suffixing *v* is frequently modified by the omission of *v* in all forms except 1 and 3 sing. and 1 plur. of perf. indic., and the contraction of the vowels thus brought together : e.g. *amāsti*, *amāstis*, *amārunť*, *amāram*, *amāssem*, *amāsse*. Sometimes however the vowels are not contracted after loss of *v*, e.g. *ie* and sometimes *ii*, as *audieram*, *audiēro*, *audiisti*, as well as *audisti* ; so frequently from *peto*, *eo* and their compounds.

Sometimes both forms of Compound Perfect, in *-si* and *-ui* are combined in one verb, e.g. *met-o*, *messui*=*met-s-ui* : *nexui* = *nec-s-ui* (stem *nec*-).

The ending *-vi*, *-ui* is generally recognised to = *fu-i* the preterite of stem *fu*- (Sanskrit *bhu*- in *bhav-ā-mi*=*existo*, *orior* ; 3 sing. 2 aor. *a-bhū-t* : Greek *φύ-ω*, *φν-τεῖω*, etc. ; *fu-am*, *future*, *fo-rem*, *fore*). The original *bh* represented by *f* in *fu-i*, etc. (p. 65), may have passed into *h* ; then *hui* would easily lose its aspirate, and become *-ui* or *-vi*. Whatever the process, it is evident that *vi*=*ui* and that *v* must not be considered as representing the *f* of *fui*. The formation, then, of the compound perfect in *-vi* is exactly analogous to that in *-si* ; a preterite form of stem *fu*- being used in one case, a preterite of stem *es*- in the other.

The terminations are the same for all four classes of perfect- ^{Inflection} stems, being distinguished throughout from the Greek perfect ^{Perfect-stem.} by the characteristic vowel *ī*¹ (found in old Latin in all

¹ Corssen (Ueber Aussprache, etc., i. p. 609, 2nd edition), quotes from the poets, *fuit*, *rediit*, *vidit*, *dedit*, *stetit*, and many others. Lachmann, on Lucr. iii. 1042, instances *petiit*, *abiit*, *rediit*, *periit*, from various passages in Ovid, and 'Italiā fatīs petiit auctoribus,' from Verg. Aen. x. 67, where however most MSS. and editors read 'petiit fatīs : ' and goes so far as to maintain that, the final *ī* being necessarily long, Vergil would not have

Latin Per-
fect-stem.

persons except 1 plur. and often written *ei*). In 2 sing. and plur. we find a suffix *is-* (*is-ti*, *is-tis*), with which the *ēr-* of 3 plur. (*ēr-unt* = *ēs-unt*) is identical; cp. also the infinitive termination *-is-se*. These forms then point to a suffix *is* as characteristic of the perfect indicative, whose complete forms would be *fec-is-m(i)* (later *fec-ī*),

fec-is-ti,

fec-is-t, („ *fecit*),

fec-is-mus, („ *fecimus*),

fec-is-tis,

fec-is-o-nt = *fecērunt*.

S in Latin not unfrequently falls out before *m* and *t*; this would account for the later forms of 1 and 3 sing.; and of 1 plur. also, except that here the *ī* is always short in poetry, and no forms in *ei* have been preserved. We must therefore suppose that in 1 plur. the tendency to shorten the penultima, which is seen at work in 3 plur. *tulērunt*¹, etc., and in the forms of perf. subj. *dederimus*, etc. (where *ī* is the characteristic mood-sign) prevailed to such an extent at so early a period, as altogether to obscure the original quantity. [In the case of 3 plur. the syncopated forms *dedrot*, *dedro*, *dederunt*, on old Pisauran inscriptions², show the early prevalence of such a tendency.]

Others (e.g. Schleicher, Comp. § 291) suppose two forms of perfect-stem, one in *is* the other in *ī*, to account for the different

shortened it, but must have written, e.g. in G. ii. 81, Aen. ii. 497, *exiit* not *exiit*, in Aen. v. 274 *transiit* not *transiit*. Lachmann's extreme view, however, is repudiated by Munro on Lucr. l. c., and Conington on Aen. ii. 497; the former pointing out that Ovid is singular among the poets of his day in lengthening the final *it* of perfects, which, though undoubtedly long temp. Ennius, had come to be universally shortened like so many other final sounds in Latin.

¹ Verg. Ecl. iv. 61 (*tulērunt*), Aen. ii. 774 (*stetērunt*). *Miscuerunt* in Georg. ii. 129, iii. 283, may possibly be trisyllable (*-cue* by synizesis). Lucretius frequently shortens the *er*; Ennius not so often; and it is probable that this quantity was a later poetical licence with perhaps some foundation in the tendencies of ordinary pronunciation.

² These inscriptions (chiefly votive, to female divinities) are given in Wordsworth's 'Fragments and Specimens,' p. 167. On the marks of their antiquity (not later than the Hannibalic war) see Mr. Wordsworth's notes, p. 408.

persons of the perf. indic., but this seems hardly necessary. ^{Latin Perfect.} The formation above noticed in *is* finds a parallel in certain aorist formations in Sanskrit, e.g. from root *vid*, 'to know,' sing. *a-vēd-im* (Vedic), *a-vēd-is*, *a-vēd-it*; plur. *a-vēd-ish-ma*, *a-vēd-ish-ta*, *a-vēd-ishus*. Here Sanskrit has lost the inflection *-ti* from 2 sing. (as cp. with Latin *is-ti*), but in 1 plur. retains the suffix (*-ish-ma* cp. with *i-mus*); both are defective in 1 sing.

N.B. If this account be correct, the *-ti* (older *-tei*) of 2 sing. is the only instance in which Latin retains the *t* of 2 pronoun (see above, p. 161). Another explanation of the perfect forms (alluded to above, p. 162), regarding *i* as the stem-ending (or connecting vowel) throughout, makes the 2 sing. and plur. *-sti*, *-stis* analogous to the Greek 2 sing. *-σθα*; and accounts for the 3 plur. *-ērunt* as a composite form with *es-onti* 3 plur. of sum (root *es*) analogous to *ἴσασι=ἴδ-σαντι* (p. 165) so that *dedērunt=dedi-sont* (instead of *ded-is-ont* on the other view). This view is plausible from its simplicity, and the harmony between Latin and Greek forms which it conceives; and, considering the obscurity in which the early history of grammatical forms is really involved, it is perhaps unsafe to say that any fairly plausible view is untrue. The other view, however, is most approved by philologists, and is therefore given as presumably the truer.

2. 'Simple,' or 'Strong' Aorist-stem [2nd Aor.].

The Strong Aorist-stem exhibits, with few exceptions, the Pure Verbal-stem, sometimes reduplicated; e.g. *ἔ-λεπ-ο-ν* from *λείπω*, *ἀγαγ-έν* from *ἄγω*. It is only formed as a rule from ^{Strong Aorist generally=pure Verbal-stem.} verbs in which the pure verbal-stem is distinct from the present-stem (enlarged), e.g. *λείπω*, stem *λεπ-*; *φείγω*, stem *φυγ-*; *βάλλω*, stem *βαλ-*; and but seldom from any but 'root-verbs,' whose stems cannot be traced back further. Verbs whose present-stem=pure verbal-stem, e.g. *ἄρχ-ω*, *λύ-ω*, *λέγ-ω*, etc., form no strong aorist, because in these cases it would coincide with the imperfect. With *ἄγω*, however, the reduplicated form *ἤγαγον* avoids this confusion: and with some other verbs the change of the vowel in the pure verbal-stem forms a strong aorist distinct from the imperfect, e.g. *τρέπ-ω*, *ἔτραπ-ον*.

Strong
Aorist-stem.

Greek has two main classes of Strong Aorist forms, corresponding to the two principal conjugations (p. 159):—

(i.) Without connecting-vowel, usually from vowel-stems¹, e.g.

Act. ἔ-θη-ν, ἔ-θη-ς, ἔ-θη: ἔ-θε-μεν, ἔ-θε-τε, ἔ-θε-σαν (compound)
(but ἔθαν).
Mid. ἔ-θέ-μην, ἔ-θε-σο, ἔ-θε-το: ἔ-θέ-μεθα, ἔ-θε-σθε, ἔ-θεντο.
ἔθου,

So ἔβην, ἔφθην, ἔτλην, ἔγων, ἐάλων, ἔφυν, etc.: and certain Epic middle forms from consonant-stems without a connecting-vowel, e.g. ἄλτο, δέκτο, λέκ-το, πάλ-το, μίκ-το, ὦρτο; λέχ-θαι, ὄρ-θαι, δέχ-θαι (infin.); ἀλμενος, ἄρμενος, δέγμενος, and ἄσ-μενος used adjectivally (= ἄδ-μενος). The imperatives λέξο, δέξο, ὄρσο are more probably weak aorist formations (see below): κέ-κλυ-θι, κέ-κλυ-τε, are examples of reduplicated forms.

(ii.) With connecting-vowel, as in ordinary conjugation:—

Act. ἔ-λιπ-ο-ν, ἔ-λιπ-ε-ς, ἔ-λιπ-ε, } and so on, as Imperfect.
Mid. ἔ-λιπ-ό-μην, ἔ-λίπ-ε-σο, ἔ-λίπ-ε-το, }
ἐλίπου,

Redupli-
cated Aorist.

To this belong most of the reduplicated forms, frequent in Homer, e.g. πέπιθ-ον, ἔειπον=ἐφέφεπ-ον (usually without augment εἶπον), ἐπέφραδον, ἠνίπαπον, ἠρύκακον. Reduplication here probably does not (as in the perfect-stem) express past or completed action; for this is expressed by the augment, and the combination of the two elements would not be analogous to that found in the pluperfect. We must therefore look to other uses of Reduplication, e.g. the expression of intensive meaning (above,

¹ The original quantity of the root-vowel in some of the forms here cited is a matter of some uncertainty. In ἔ-θέ-την, θείναι, θέ-σις, and kindred forms, δέ-δο-ται, δοῦναι, δο-σίς, etc., φά-θι, φα-τός, etc., the short vowel of θε, δο, φα, appearing as it does in a majority of forms, is presumably the primitive root-vowel. On the other hand, the Indian grammarians allow no roots in ā, but only in a; so that Sanskrit dā answers to Greek δο, Latin dā-re (but dō-num), Sanskrit dhā to Greek θε: and in forms like γῶν-ναι, γῶν-τός, γῶν-σις, etc., βῶν-ναι, ἄλῶν-σις, ἄλῶν-ναι, etc., τῆ-τρῶν-μαι, ἐ-τρῶ-θην, etc., the long vowel extends to the greater number if not to all the forms, and seems to be original. Schleicher maintains that ā is the primitive form in all Sanskrit roots; and readers of his Compendium will find this assumption there carried out. This view may or may not be correct, but we have no data reaching far enough back into the history of European speech to enable us to determine the question.

p. 49). Curtius (Temp. und Modi, pp. 150-164) enumerates ^{Strong Aorist.} 32 reduplicated aorists, in 7 of which (ἤκαχον, ὤρορε, δέδαε, λέλαθον, λέλαχον, πεπαρέιν, κεκαδών) he traces a *causative* meaning; in 11 (κέκλετο, ἠνίπαπε, ἐρύκακε, ἤπαφον, κέκλυθι, λελάβεσθαι, ἀμπεπαλόν, ἐπέπληγον, τετάρπεσθαι, ἐπέφραδε, τεταγών) an *intensive* meaning; in 2 (πετύκοντο, πεπίθουτο) a special *transitive* sense [this, however, seems far-fetched]; while in the remaining 10 (ἄλαλκον, ἤγαγον, ἤνεγκον, κεκυθῶσι, κεχάροντο, λελάκοντο, μεμάποιεν, πεφιδόμην, ἔτετμον, ἔπεφνον) no special influence of the reduplication can be detected. From these Greek forms and a comparison of Sanskrit, in which reduplicated aorists are formed almost entirely from verbs of the 10th class (principally causatives), Curtius arrives at the conclusion that in the reduplicated aorist the reduplication (Verdoppelung) belongs not to the tense-formation but to word-formation: and that its original import was to give an *intensive* or *causative* meaning, irrespective of time.

Traces of an aorist formation in Latin are supposed to lie in ^{Traces of Aorist in Latin.} certain old forms, e. g. in *tago*, *tagis*, an old pres. form of *tango* mentioned by Festus (Forcell. quotes Plaut. Asin. ii. 2. 106, but the reading is doubtful) exhibiting a pure verbal-stem *tag* (*θγ*) beside pres. stem *tang*; in *pagunt* (XII Tab.) by present *pango*, cp. ἐ-πάγ-ην, πήγνυ-μι; and in *parentes* (=οἱ τεκ-όντες), beside *parientes* (οἱ τίκτ-ο-ντες).

3. Present-stem.

The Present-stem is (as has been already pointed out, p. 152) ^{Present-stem in relation to Pure Verbal stem.} in many cases different from the pure verbal-stem, by combination of which with the various suffixes of person, mood, and tense, all the forms of the verb may be explained. Under the heading 'Present-stem' is in fact included a series of morphologically distinct formations, each of which had originally its own special meaning (e. g. inchoative, intransitive, durative, passive, intensive, causative, desiderative, iterative): but in Greek and Latin, while a variety of forms remains, distinct functions have disappeared, or survive only in a few special cases (such, e. g. as the forms for inchoative and desiderative verbs). By Sanskrit grammarians the special modifications of

Present-stem in Sanskrit.

roots to form the present-stem of verbs are taken as the basis of a classification of verbs: and the ten 'conjugations' of Sanskrit grammar are ten classes of verbs arranged according to the formation out of roots of verbal-bases or stems, which then receive a common scheme of terminations, in the four 'conjugational tenses' (present, imperfect, potential, and imperative) which alone are affected by the rules of stem-formation. In all other tenses there is one general rule for forming the base or stem of all verbs, i. e. in all except the four 'conjugational tenses' all Sanskrit verbs belong to one common conjugation. For Greek and Latin grammar, in which no such elaborate system of stem-formation and euphonic combination of stems with inflections can be traced, the most practicable classification of verbs (as of nouns) is found to be a purely phonetic classification, according to the final letter of the stem (see p. 159): but in the various formations of the Present-stem we have the outlines of a system akin to that of Sanskrit, which may to a certain extent be made the basis of a classification of verbs according to *stem-formation*, but without the corresponding distinctions of *meaning* which give its point to such classification.

Formation of Present-stem.

The Present-stem is generally speaking an *enlargement* of the Verbal-stem, either by strengthening this latter or making additions to it. For strengthening a root, language employs two principal means,—Reduplication and Vowel-strengthening (see above, pp. 49, 50); and to these may possibly be added a third, viz. Nasalisation. The operation of these is seen in the formation of 'Intensive' Verbs in Greek, in which Reduplication is often combined with Vowel-strengthening (e. g. *κηνέω*, *παυπᾶλλω*, *ποιπνύω*) and Nasalisation (e. g. *παμφαίνω*, *βαμβαίνω*, *γογγύζω*, etc. The employment, separately, of these three means of stem-strengthening gives us three distinct classes of Present-stem¹: and if we take first (as probably earliest in order of time) those verbs in which the Present-stem is identical with

¹ It sometimes happens that two or more of these methods are employed in forming from the same stem verbs of a kindred signification, e. g. *ἐργάζανω*, *ἐρρεύγω*—*τυγχάνω*, *τεύχω*—*πυνθάνομαι*, *πεύθομαι*—*λανθάνω*, *λήθω*, etc., etc. See Curtius, 'Tempora und Modi,' p. 81.

the Verbal-stem, we shall thus have four classes of Present-stem, viz. :—

Classifica-
tion of Pre-
sent-stems.

1. Verbal stem unaltered—λέγω, γράφω, ἄγω, *cado, tego*, etc.
2. „ „ reduplicated—δίδομι, πίπ(ε)ται, *bibo, sero (= seso)*.
3. Stem-vowel strengthened—φείγω (φυγ-), λείπω (λιπ-), *dūco (dūc-), fido (fides)*.
4. Nasalisation :—
 - (1) By insertion—ἐλέγχω, σφίγγω, *tango, findo, fundo*, etc. ;
 - (2) By addition—κάνω (καμ-), δάκνω : forms in -νυ-μι and -αν-ω :
ster-n-o, sper-n-o, ster-nu-o ;
 - (3) By both these—λαμβάνω (λαβ-), μανθάνω (μαθ-), etc.

To these may be added three more classes, viz. :—

5. Addition of *t* sound—τίπτω (τυπ-), etc., *pecto, flecto*.
6. „ „ *ja* (pronominal ?), which appears,
 - (1) as simple *i* sound—μηνίω, *sal-io, δοκ-έ-ω* ;
 - (2) in a diphthong—δαίω, *μαίομαι, φαίω, κτείνω*, etc. ;
 - (3) by assimilation into a double consonant.
7. Addition of *sk*, Gk. *σκ*, Lat. *sc* (Inchoative and Iterative verbs).

Of these classes, Curtius (who in *Temp. und Modi*, pp. 67–123, has treated the question most exhaustively) regards 2, 3, 4, and 5, as showing a merely phonetic increase of the root ; 6 and 7 only as formed by the addition of distinct (pronominal) stems. Others (e.g. Schleicher) regard 3 and 5 as also exhibiting an additional pronominal element (*na, nu* or *n, ta* or *t*). While stating both views, I shall here (as in divers other points) prefer to trust the judgment and philological insight of Curtius.

The Present-stem receives in all cases the primary form of the Person-endings : and under each of classes 1–4 fall Greek verbs of both principal conjugations (p. 159), affixing the terminations to the stem with or without a connecting vowel, e.g. :—

1. (Unaltered) λέγω (λέγ-ο-μι) and ἔσ-μι.
2. (Reduplicated) πίπ(ε)τ-ω (stem πετ-) and τί-θη-μι.
3. (Vowel raised) πείθ-ω (stem πιθ-) and εἶ-μι (stem ι-).
4. (Nasalised) πινά-ω (stem πετ-) and πετ-άν-νυ-μι.

Verbs of the remaining three classes (5, 6, 7) belong almost entirely to the ordinary or -ω conjugation, employing a connecting vowel. In Latin the other or -μι conjugation is almost lost,

except in isolated forms like *es-t*, *vol-t*, *fer-t*, *i-mus*: and the 'connecting vowel' characterises all Latin conjugation.

Formation
of Present-
stem.

I proceed to examine the different classes of Present-stem rather more in detail, following mainly the remarks of Curtius (Temp. und Modi, as above).

1. Verbal-
stem un-
altered.

1. Curtius (Temp. und Modi, p. 74) suggests that among the 'unaltered' present-stems should be included verbs whose stems have undergone 'strengthening,' but in which the strengthened form has become stereotyped so to speak as the *only* existing or traceable form, and the unstrengthened form is quite obscured, e. g. γείω, δέω, λείβω, ἀμείβομαι; and (with nasal) *jungo*, *prehendo*, *scando*, *incendo*: also *dīscō*, *dīcō*, *fīdō* (on the ground that their stem-vowel is only lengthened, not increased). He allows however that philologically these forms may be assigned to the 3rd and 4th classes respectively: and it seems to be a needless hair-splitting not so to class them.

2. Redupli-
cated Pre-
sent-stems.

2. Reduplicated Present-stems are rare in Latin, which (as we have already seen in the case of the Perfect-stem) has retained this primitive method of strengthening but little: it seems that *gigno* (*gi-gen-o*), *si-sto* (=ἴσσημι), *sero*=*se-so* (stem *sa-* in *sa-tum*), and *bi-bo* are the only certain examples: Schleicher (§ 295) adds *sīdō*=*sis-do*=*si-sedo*, from root *sed-* in *sedere*.

In Greek the vowel of the reduplicated syllable is generally ε (not ε as in perfect-stem, p. 176), e. g. δι-δο- (δο-), ἴ-στα=σι-στα, τί-θε (root θε-, on change to τ see p. 47): ἴ-η-μι=ῖ-ῖα-μι: διζήμαι=διδῆμαι (by assimilation, p. 72). Compare also κί-χρημι (χρη); and δι-δῆ (Il. xi. 105), δι-δέντων (Od. xii. 54), imperat. from a stem δι-δῆ (root δε- of δέ-ω); βί-βας part. pres. stem βα: πί-μ-πλη-μι and πί-μ-πρη-μι (πλα- and πρα-) introduce a nasal into the reduplication. In these forms the final vowel of present-stem is often raised in singular, e. g. διδω-μι but διδο-μεν, ἴη-μι but ἴε-μεν: compare Sanskrit *da-dā-mi*, *dad-mas*, where *ā* is lost.

In the ordinary conjugation we have γίγ(ε)νω, πίπ(ε)ρω, μίμνω = μ-μέν-ω, to which Schleicher adds ἱζω=ἰδῶ (p. 72)=ἰέδῶ = *si-sedῶ*, from root *ēd*=*sed*, see above on Latin *sīdō*. [But it would be simpler to rank ἱζω=ἰδῶ in class 6 with suffix *jā*:

for even if *sido* be rightly explained as above, it is not necessary to assume a precisely similar development in Greek from the same root $\epsilon\delta = sed$.] *Γιγνώσκω*, *δι-δράσκω*, *τιτύσκομαι*, *πιφαύσκω* come also under class γ, being formed by addition of *σκ*. In the intensive forms *παιπάλλω*, *δαιδάλλω*, *ποιπνύω*, *δειδίσκομαι*, etc., the reduplicated syllable is intensified, no doubt as being the significant part of the word: but as the consciousness of the meaning conveyed by it was lost, emphasis was no longer laid on that syllable. On the contrary, it became weakened; and what was originally a formative element became merely mechanical, the intensive or frequentative or desiderative force disappearing altogether. Thus *μι-μέο-μαι* (root *μα-*, *με-*, in *me-t-ior*, etc.) originally = 'I frequently measure myself,' i. e. by some one, and so 'copy,' 'imitate,' has entirely lost its frequentative force. Latin *imitor*, *imago* are possibly weakened forms of *mi-mi-tor*, *mi-ma-go*, formed on the same principle from the same root.

3. The vowel of the verbal-stem or root is raised irregularly in the pres. indic of some primitive verbs, e. g. *εἰ-μι*, *εἶς*, *εἶ*, *εἶσι*; but *ἵμεν*, *ἵτε* (stem *ι*): *φῆ-μι*, stem *φα-*. The Latin stem *i-* is raised to *ī* in *īs*, *īt*, *īmus*, *ītis*; but *ēo*, *ē-unt*. 3. Vowel of Verbal-stem raised.

In the ordinary conjugation of Greek verbs the raising is more regular throughout the present-stem, the unstrengthened form being often visible in 2 aor. (see above, p. 183), e. g. *φεύγω* (*φυγ-*), *λείπω* (*λιπ-*), *λήθω* (*λαθ-*), *τήκω* (*τακ-*), *τρώγω* (*τραγ-*), *πλώω*, the two last having the second stage of intensification (see pp. 50, 51). Certain verbs in *-εω* from stems in *υ* have had the stem raised to *ευ*, but the stem has passed into the consonantal sound *ϕ* and thus lost in present-stem (as in gen. *γλύκε-ος* = *γλύκεϕ-ος*, see p. 111), remaining as *υ* before a consonant in other parts of the verb, thus *ρέ-ω* = *ρέϕ-ω*, *ρέυ-σομαι* (stem *ρύ-* in *ῥρύ-ην*); compare also *πλέ-ω*, *χέ-ω*, *πνέ-ω*.

Curtius arranges the verbs under this head in two divisions; (a) those which exhibit complete strengthening by an addition of vowel sound, i. e. *ει*, *ευ* from *ι*, *υ*; (b) those in which the strengthening only appears in the increase of quantity of the stem-vowel, e. g. *a* to *ā* or *η* (*a* being by its nature incapable of

Formation
of Present-
stem.

receiving additional vowel sound, see p. 50), as in λήθω (λαθ-), τήκω (τακ-); or ζ, υ̇ to ι, υ̇ (instead of to ει, ευ), as in τριῖβ-ω (ἐ-τριῖβ-ην), φρυῖω (ἐ-φρυῖ-ην). This simple increase of quantity is all that is exhibited by the Latin present-stems which fall under this head—the weakness of the Latin vowel-system having all but extinguished diphthongs and made a full increase, such as from ι, υ to ει, ευ, impossible. *Dīco* (root of *in-dīc-are*, Greek δίκ-η) and *fīdo* (*fīdes*) are analogous forms to τριῖβω (τριῖβη): but the change was probably much more formal and meaningless to the Romans than to the Greeks, who seem to have retained some consciousness of its purpose.

4. Nasal
sound in-
serted.

4. The different results of the principle of Nasalisation in the formation of Present-stems are thus arranged by Curtius :—

(1) Nasal introduced into the body of the root, chiefly in Latin, e.g. *tango* (old form *tago*, p. 185), *pango* (older *pago*), *frango* (*fractus*, *fragor*), *finco* (*fig-i*), *linguo*, *tundo*, *jungo* (*jug-um*), etc., etc. This, the simplest kind of Nasalisation, is common to Latin and Sanskrit, but almost unknown in Greek; σφίγγω (σφίγγ-μος), ἐλέγχω being perhaps the only cases where it alone is employed, though it is combined with a nasal syllable (no. 3) in a good many stems, such as λαμβάν-ω, θιγγάν-ω (λαβ-, θιγ-), see below.

Appended.

(2) Nasal appended to the root :—

(a) After vowels—πίν-ω, τίν-ω, φθίν-ω, φθάνω, δύνω as compared with ἔπιον, τίω, ἔφθι-το, φθά-μενος, δύ-ω. The roots γεν, τευ, μεν, φεν (in γέ-γον-α, τόν-ος, μέ-μον-α, φόν-ος) are perhaps nasalised forms of still older roots which appear in the forms γέ-γα-α, τά-τος, μέ-μαα, πέ-φα-μαι. In κρίνω and κλίνω the nasal passes into other tenses also.

(b) After consonants—κάμν-ω (ἔ-καμ-ον), δάκ-νω, and τέμνω; σπέρνω, τέμνω, πῶνω=ρῶνω, ρῶσις-ο (ρῶσις).

Addition
of nasal syl-
lables.

(3) Addition of nasal syllables—νε, να, νη, νυ, and αν, e.g. ἰκνέ-ομαι, κνέ-ω, οἰχνέ-ω; κινά-ω, πιτ-νά-ω, δεικα-νά-ο-μαι (κεράν-νυμι, πετάν-νυμι, δεικνυ-μι); ζεύγνυ-μι, ῥήγνυμι, ἄλλυμι=ἄλνυμι, σκίδνυμι, κίρνυμι; ἰκάν-ω, αὐξάνω, ἁμαρτάνω; and (with inserted nasal also) λαμβάνω, θιγγάνω, χανδάνω, etc.

Schleicher (Comp. § 293) regards these nasal syllables as pronominal additions. Curtius, on the other hand, considers them as purely phonetic additions growing out of the simple nasal sounds inserted or suffixed to produce a greater fulness of tone, analogous to the intensification of vowels. According to him, therefore, the Latin forms *pa-n-go*, etc., in division 1, into which the nasal enters only as an extension of consonantal sound, are more ancient than the forms in *ν-μ*, etc., common in Greek, where the nasal combined with a vowel forms a distinct syllable. [See 'Tempora und Modi,' pp. 53-66, where the phonetic character of these nasal additions is elaborately illustrated by analogies from Sanskrit, and compare above, chap. iv. pp. 51, 52.]

5. The strengthening of the verbal-stem by addition of the dental tenuis *t* is chiefly found in Greek : e. g. in two verbs only after a vowel, viz. *ἀνύτω* and *ἀρύτω* (Attic for *ἀνύω*, *ἀρύω*) ; in two after a guttural, viz. *πέκτω* beside *πείκω* and *πέκω*, and *τίκτω* (stem *τεκ-*) ; and often after labials, *β* and *φ* being changed by assimilation to *π* (p. 72), e. g. *βλάπτω* (*βλάβ-η*, Epic *βλάβεται*), *καλύπτω* (*καλύβη*), *τύπτω* (*ἔ-τυπ-ον*), *ἐρέπτω* (later form for *ἐρέφω*), *θάπτω* (*ταφ-ός*), etc. The only analogous forms in Latin are *pect-o*, *flect-o*, *nect-o* (*nexui* = *nec-s-ui*), *plect-o* (*πλέκω*). Schleicher regards the *t* as a pronominal stem *ta* : but it is more probably a purely phonetic increase of sound, as e. g. in *πτόλις*, *κτείνω*, *πτόλεμος*, beside *πόλις*, *καίνω*, *πολέμος* ; compare *ὑπτ-ιο-s* from stem *ὑπ-*, Latin *sup-*.

6. The insertion of *ja* (*ya*) between stem and person-ending, which is the characteristic of the fourth class of verbs (chiefly intransitive), and also of the passive conjugation (see p. 166) in Sanskrit, appears in many Greek and Latin verbs. The *j* (*y*) sound seems to have been uncongenial to Greek organs of speech ; accordingly it is, generally speaking, either vocalised into *i* or passes by assimilation into some other sound. The forms which it assumes are thus arranged by Curtius :—

(1) *j* sound appears as a vowel :

(a) As *i*, in *ιδίω* (Sanskrit *svidjāmi*, compare *ιδρώς* = *σφιδ-ρώς*), *μην-ί-ω* (root *μαν-*), *έσθ-ί-ω* (Hom. *έσθ-ώ*, strengthened from *ἔθ-ω*). In Greek : *j* as vowel ;

Formation
of Present-
stem by *ja*.

The *ι* is sometimes long (*μηνῖεν*, II. ii. 769: compare Aesch. Eum. 101): so that perhaps these forms should be reckoned parallel to Latin *audire*, etc. (*ι=ij*, see below).

(b) As *ε*, in *δοκ-έ-ω*, *γαμ-έ-ω*, *κυρ-έ-ω* (*κύρ-ω*, *κύρ-σω*), *πατ-έομαι* (*έ-πασ-άμην*, *παστός*), *φιλέω* (Epic *φίλαι* and *εφίλατο*), *στυγέω* (*έ-στυγ-ον*), the *-εω* of these verbs, which in other forms exhibit a shorter stem, being different from the *-εω* of ordinary derivative verbs (see Appendix III), though probably the distinction was forgotten.

j as *i* in a
diphthong:

(II) The *j* sound (vocalised into *ι*) appears in a diphthong:

(a) Combined with the final vowel of a stem—*δαίω*, root *dā*, ‘divide,’ or *du* (*dah*), ‘burn,’ (so *ι-δά-η*). *μαί-ομαι* (*μά-σομαι*, *εμασάμην*), *ναίω* (*ἐνασσα*), *καίω* (Attic *κάω*, fut. *καύσω*, stem *καϜ*), *κλαίω*, *ὀπνίω* (*ὀπνύ-σω*).

(b) Thrown back *within* the stem and combined with its vowel (as e.g. in *ἀμείνων*=*ἀμενίων*, *μέλαινα*=*μελάνια*, *σώτεια*=*σωτέρια*, and many others): thus *φαίνω*=*φάν-ῖω* (*έ-φάν-ην*), *κτείνω*=*κτένῖω* (*έ-κτον-α*), *μαίνομαι* (another formation from root *μαν*, see *μην-ί-ω* above: and so with many verbs ending in *-μαινω*, derivatives from nouns in *-μα(τ)*=an older *-μαν*, e.g. *ὀνομαίνω*, *δαιμαίνω*, *θανυμαίνω*; *τεκμαίρ-ομαι* (*τέκμαρ*), *καθαίρω* (*καθαρός*), *ιμείρω* (*ιμερός*); *αἶρω*, *εἶρω* (Latin *sero*), *φθειρώ* (*εφθάρ-ην*), *χαίρω* (*έχάρ-ην*), *κρίνω* (*κρίν-ω*, fut.).

j as conso-
nant by assi-
milatlon.

(III) The *j* sound passes into a double consonant by assimilation (see above, p. 70):

(a) By pure assimilation from *λj* to *λλ*, e.g. *ἄλλομαι* (Latin *sal-i-o*), *στέλλω* (*έ-στάλ-ην*), *σφάλλω*=*σφάλῃω* (*έ-σφάλ-ην*), *βάλλω* (*έ-βαλ-ον*), *ὀφέλλω*=*ὀφέλῃω*, which also passes into *ὀφείλω* (II. b, above).

(b) From *κj*, *χj*, *γj*, *τj*, *θj* to *σσ*, e.g. *φυλάσσω* (*φυλάκ-ῃω*), *ταράσσω* (*ταρ. χ-ῃω*, compare *ταραχ-ή*), *ἀλλάσσω* (*ἀλλάγ-ῃω*, compare *ἀλλάγ-η*), *λίσσσομαι* (*λίτjο-μαι*, compare *λιτ-ή*), *κορύσσω* (*κορύθῃ-ω*, *κόρυθ-ος*). The process of change in these cases has already been described, ch. iv. p. 70. Full lists of forms in illustration are given by Curtius (Temp. und Modi, pp. 98, 103, etc). In noun forms we may compare *ἥσσω*=*ἥκῃων* (*ἥκ-ιστος*), *ἐλάσσω*=*ἐλάχῃων* (*ἐλάχ-ιστος*), *κίλισσα*=*κίλικῃα*, *χαρίεσσα*=*χαρίεντ-ja*: the

two latter showing the feminine suffix *ja*, which in *μέλαινα*, *σώρευα*, etc., noticed above, passes back into the stem as the *i* sound of a diphthong (II. *b*).

(*c*) From *ɔj* (and sometimes *ɣj*) to *ζ*: e. g. *ἔζομαι* (*ɛ̃ʒo-mai*, root *ē-* of *ἔδ-os*, *sedes*), *ἔζω* (*ɛ̃ʒ-o-da*), *φράζω* (*πέφραδ-on*): also *κράζω* (= *κράγῳ*, cp. *κί-κραγ-a*), *στάζω* (*σταγ-ών*).

In Latin the *i* sound remains, e. g. in verbs in *-io* of 3rd con- ^{*j* (i) in Latin Present-stem.}jugation before *o* and *u* (*capi-o*, *capi-unt*) and the conjunctive *a* (*capi-ant*), and so called fut. indic. *e* (*capi-ent*). Where the connecting-vowel becomes *i*, the two coalesce (*capis*, *capit*, *capimus*, *capitis*). We should have expected *ī* throughout: and *capīs* and *capīt* were probably the original quantities; *capimus* and *capitis* arising partly from analogy with *capio*, *capīunt*, partly from the general tendency to shorten an unaccented syllable, aided by the desire to distinguish the forms from those of the 4th conjugation of derivative stems in *ī* (*audīmus*, *audītis*, etc.). Other Latin verbs of this class are, e. g. *jaci-o* (*jac-tus*), *fodi-o* (*fossus*=*fod-tus*), *fugi-o* (*fūg-i*), *agi-o*=*aggi-o* (root *ag* in *ad-ag-ium*), etc. etc. In *ero*=*esio*, a present form from root *es* (compare *ἔσομαι* for *ἔσσομαι*, and see p. 199), the *i* sound has disappeared before *o* and *u*. Assimilation analogous to that observed in Greek is possibly seen in *pello* (*πάλλω*, *pe-pul-i*)=*pel-jo*, *percello*, *tollo* (*te-tul-i*), *vello*, *fallo*, *curro*, etc. But this kind of assimilation is not familiar to Latin, which e. g. keeps *sali-o* by Greek *ἄλλομαι*, *alius* by *ἄλλος*, *medius* by *μέσσος*, *melior* by *μᾶλλον*: and it is possible that in these and similar forms with *ll*, *rr*, we have a doubling and so increase of the consonantal sound with the same object as that of the vowel increase in verbs of class 3 (p. 189).

[N.B. In this class have been included only those verbs 'Derivative' in which the suffix *ja* appears to have been used in the formation of the present-stem from a verbal-stem, which latter is traceable in other forms of the verb. From these must be distinguished a common formation of derivative verb-stems by the addition of the same suffix *ja* (*j*) to nominal stems, in the conjugation of which the *i* sound (or its effects) is

Verbs with suffix *ja* not included under this head of Present-stem.

Derivative
Verbs with
suffix *ja*.

retained throughout all tenses¹. These are in Greek the 'contracted' verbs in *-aω*, *-εω*, *-οω* (from an original *-ajω*, *-ejω*, *-ojω* = Sanskrit *-ajāmi*, the regular termination of one class of verbs (10th) in Sanskrit) from which the *i* (*j*) sound has dropped, e.g. *τιμάω* = *τιμάjω*, from noun-stem *τιμα-*; *φορέω* = *φορέjω*, from stem *φορε-* (*φορο-*); *ὀρθόω* = *ὀρθόjω*, from stem *ὀρθο-*. Corresponding formations in Latin are the ordinary 1st and 2nd conjugations, and verbs in *u-o* of the 3rd, e.g. *amo* = *amao*, from *amajo*; *moneo*, from *monejo*; *statuo*, from *statujo*: the *ā*, *ē* of the 1st and 2nd being the result of combination with the connecting-vowel, as in the contracted forms *τιμῶμεν* = *τιμά-ο-μεν*, *φοροῦμεν* = *φορέ-ο-μεν*; while in the *-uo* forms (= *-οω*), the vowels remain uncombined (*statuis*, *statui-mus*), except in the supine stem (*statūtum* = *statu-i-tum*). Greek verbs in *-iω* where *i* remains through all tense-stems, e.g. *ἰδίω* (root *ἰδ*), *μηνίω*, *κονίω* = *κονίjω*, seem parallel to Latin 4th conjugation forms in *-io* as compared with 3rd conjugation *cupio*, etc.: and the long *ī* found in some of them (*κονίω*, *μηνίω*) shows a contraction of *i* sound with another vowel. The terminations *-αζω*, *-οζω*, *-ιζω* probably contain the suffix *ja* (*j*) assimilated (see p. 72): and in *-αινω*, *-ῶνω* (*λειαίνω*, *θαρσύνω*) the *i* sound is thrown back into the stem as above in II. b. Latin desiderative forms in *-tur-io* are formed from nominal stems in *-tor* by addition of *ja* (*i*), e.g. *partur-io* (*partor*), *ēsurio* = *ed-turio*.]

7. Addition
of *σκ-* (*sc-*).

7. The verb forms in *-σκω*, *-σκο* ('Inchoative' verbs)² are especially interesting because we can in this case prove a particular meaning for the additional element in the present-stem, such special meaning having (as already pointed out) been lost sight of in the other forms that have been discussed. The Inchoative (or Inceptive) meaning is obvious in many verbs both Greek and Latin (especially the latter), e.g. *γηρά-σκ-ω* (cp. *sene-sc-o*), *ῆβή-σκ-ω* (*pube-sc-o*), *ἀναβίω-σκ-ο-μαι* (*revivī-sc-o*); and can be traced in many others, e.g. *μι-μνή-σκ-ω* (*re-min-i-scor*), *ἀλδ-ή-σκ-ω* (cp. *adole-sc-o*), *γι-γνώ-σκ-ω* (= *gnōsco*), and *δι-δά-σκ-ω*, 'I make to learn,' which is the correlative (with causal sense)

¹ See Appendix III.

² See Curtius, 'Elucidations,' pp. 141-144.

of *di-sc-o*, 'I learn.' In other forms (e. g. βλώσκω, θρώσκω, *Formation of Present Stem by σκ-* *paciscor, ulciscor*) there is no historical trace of the meaning. The 'Iterative' forms of imperf. and aor. in *-σκον*, common in Homer, are an isolated preterite of this formation of the present, e. g. ἔχε-σκ-ον, ἴδε-σκ-ον, μέν-ε-σκ-ον, etc. Curtius (*Elucidations*, pp. 142, 3) explains the connection between the two thus:—The Inchoative meaning consists essentially in the fact that the action comes to pass *gradually*; and the gradual realization (which language originally intended to denote by these present-forms) and the repetition of an action were regarded by language as nearly akin. Hence these iterative forms in *-σκον* are the opposite to the sudden 'momentary' action of the aorist.

The forms in *-σκω*, *-σκο* are also interesting as showing the especially close connection between the Greek and Latin branches of the Indo-European family. Sanskrit has something like it in the addition (to a very few verbs) of *k'h*, the regular representative of *sk* in Indian languages: but there is no trace of that specific meaning of the additional element which in the two classical languages is retained to so great an extent as to give the name 'Inchoative' to the class of verbs. The mode of adding the *σκ-*, *sc-* is also very similar in the two languages: 'We need only compare *(g)no-sc-o*, *(g)na-sc-or*, *cre-sc-o* with γι-γνώ-σκ-ω, πι-πρά-σκ-ω, κι-κλή-σκ-ω, the derivative ἡβά-σκ-ω, γηρά-σκ-ω with Latin *ira-sc-or*; ἀλ-ί-σκ-ο-μαι, στερ-ί-σκ-ω with Latin *ap-i-sc-or*, *pac-i-sc-or*, and διδά-σκ-ω, λά-σκ-ω in which a guttural (i. e. of stem διδαχ-, λακ-) is lost with *disco* (cp. *doc-eo*) to perceive that the laws of formation are the same.' Both languages unite the Inchoative element to a consonantal stem by the intervention of a connecting-vowel (*i*, *ē*, or *e*); but whether Curtius' statement 'that the genius of language, which is ever intent on delicate distinctions, has separated the Iterative forms from the Inchoatives, at least in part by the connecting-vowel,' is sufficiently borne out by the evidence, may be doubted. The connecting-vowel seems to be merely euphonic (p. 157); and though language sometimes avails itself of purely euphonic differences to express differences of meaning (see above, p. 34), there is no proof that it has done so here.

The origin of the element $\sigma\kappa$ -, sc - is unknown.

Imperfect (Greek).

Formation
of Imper-
fect in
Greek.

Formed from the present-stem by prefixing the augment, with secondary person-endings : e. g. (a) with connecting-vowel, $\tilde{\epsilon}\text{-}\phi\epsilon\rho\text{-}\sigma\text{-}\nu$, $\tilde{\epsilon}\text{-}\phi\epsilon\rho\text{-}\epsilon\varsigma$, etc., 3 plur. $\tilde{\epsilon}\text{-}\phi\epsilon\rho\text{-}\sigma\text{-}\nu=\tilde{\epsilon}\phi\epsilon\rho\sigma\tau$: (b) without connecting-vowel, $\acute{\epsilon}\tau\iota\theta\eta\text{-}\nu$, $\text{-}\eta\text{-}\varsigma(\iota)$, $\text{-}\eta(\tau)$, (stem-vowel raised in singular), 1 plur. $\acute{\epsilon}\tau\iota\theta\epsilon\text{-}\mu\epsilon\nu$, 3 plur. $\acute{\epsilon}\tau\iota\theta\epsilon\text{-}\sigma\alpha\nu$ (a compound formation, see p. 165). From $\epsilon\iota\mu\iota$ are found two forms of imperfect, (a) $\tilde{\epsilon}\sigma\nu=\tilde{\epsilon}\sigma\text{-}\sigma\text{-}\nu$, with connecting-vowel and augment omitted ; (b) $\tilde{\eta}\nu=\tilde{\eta}\sigma\text{-}\nu$ with the augment and with σ dropped ; or, with ν also dropped, $\tilde{\eta}$. Sanskrit forms from the corresponding stem as - a preterite $\acute{a}s\text{-}a\text{-}m=a\text{-}as\text{-}a\text{-}m$, the vowel a being appended to the stem to make the inflection easier. This appears in another form of 1 sing. imperf. from $\epsilon\iota\mu\iota$ ($\acute{\epsilon}\sigma\text{-}\mu\iota$), viz. $\tilde{\eta}a=\tilde{\eta}\sigma a$ (Ionic $\tilde{\epsilon}a$ without augment), and in 3 plur. $\tilde{\eta}\sigma\alpha\nu=\acute{a}sant$, or $\tilde{\epsilon}\sigma\alpha\nu=erant$; in Latin $eram=esam$ ($=\acute{a}sam$ without augment) ; and finally in the weak (1 aor.) termination $\text{-}\sigma a$ (see next page). Putting these forms together, we have—

1 Sing. $\acute{a}s\acute{a}\text{-}m$,	$\tilde{\eta}a=\tilde{\eta}\sigma a(\mu)$,	$[\tilde{\eta}\nu (= \tilde{\epsilon}\text{-}\epsilon\sigma\text{-}\nu)]$,	$er\acute{a}\text{-}m=esam$,
2 „ $\acute{a}s\acute{a}\text{-}\varsigma$,		$\tilde{\eta}\sigma\text{-}\theta a$,	$er\acute{a}\text{-}\varsigma$,
3 „ $\acute{a}s\acute{a}\text{-}t$,	$\tilde{\eta}\epsilon=\tilde{\eta}\sigma\text{-}\epsilon$,	$\tilde{\eta}\nu$,	$er\acute{a}\text{-}t$,
1 Plur. $\acute{a}s\acute{a}\text{-}mas$,		$\tilde{\eta}\mu\epsilon\varsigma$,	$er\acute{a}\text{-}mus$,
2 „ $\acute{a}s\acute{a}\text{-}ta$,		$\tilde{\eta}\tau\epsilon$],	$er\acute{a}\text{-}tis$,
3 „ $\acute{a}s\acute{a}\text{-}(t)$,		$\tilde{\eta}\sigma\alpha\nu(\tau)$ or $\tilde{\epsilon}\sigma\alpha\nu(\tau)=er\acute{a}\text{-}nt$.	

A similar formation in Latin from the stem fu -, i. e. $fu\text{-}am$, is generally supposed to survive in the termination $\text{-}bam$ of the Latin composite imperfect (see below, p. 205). The length of \bar{a} throughout in $er\bar{a}m$, $fu\bar{a}m$ is a fact of which there is no explanation. In Sanskrit the vowel a is *always* raised to \bar{a} before m or ν of the person-endings (e. g. $bhar\text{-}\acute{a}\text{-}mi$, $bhar\text{-}\acute{a}\text{-}vas$, $bhar\text{-}\acute{a}\text{-}mas$ of 1st sing. dual and plur. : but $bhara\text{-}\acute{s}\acute{i}$, $bhara\text{-}ti$, etc., throughout the rest of the pres. indicative) ; and traces of this (the reason for which is unknown) *may* remain in $er\bar{a}m$, $fu\bar{a}mus$, extended by analogy to the whole conjugation of the tense.

Relation of
Weak to
Strong
Aorist.

4. *The Weak or Compound Aorist* (1 aor.).

1. The function of this tense is the same as that of the

Strong Aorist, viz. the expression of momentary action in past time. But whereas the Strong Aorist is formed in general only from verbs which form a present-stem distinct from the pure verbal-stem (see p. 183), the Weak Aorist is formed from all verbs whose present-stem is the same as the pure verbal-stem (e. g. ἄρχω, λέγω, γράφω), or a nominal-stem increased by *j* (e. g. ἐλπίζω, φυλάσσω, τελέω, see p. 194). Comparatively few verbs, e. g. those with vowel-raising or dental suffix in the present-stem (above, pp. 189, 191), as πείθω, λείπω, τύπτω, and several verbs in -μι, have both forms of aorist: and in some cases where both forms are found, they are used to denote an intransitive or neuter, and a transitive or active meaning respectively, e. g. ἔστην, ἔστησα; ἔβην, ἔβησα. Many verbs however, along with the weak aorist form, exhibit a so-called 2 aorist pass. formed from the simple or strong aorist-stem with the addition of *ε*, *η* (see p. 206): e. g. ζεύγνυμι, ἔζευξα, ἐζύγην: βλέπτω, ἔβλαψα, ἐβλάβην. In the later periods of the language this newer compound aorist, the use of which had become widely extended with verbs from which it was impossible to form a simple aorist (e. g. the large class of derivative verbs in -αω, -εω, -οω, -ευω, -ιζω, -αζω, -αινω, -υνω, etc.), appears to have superseded the older form, even where the conditions for a strong aorist formation were found, e. g. βλέπτω, ἔβλαψα, but not ἔβλαβον.

2. Formation of the Weak Aorist. The preterite of the verbal stem *as-* (*āsām*, *asas*, *asat*, see above under head of Imperfect, p. 196) is added to the pure verbal-stem like an auxiliary verb. The initial *a* of *as* disappears as in Sanskrit (*ā*)*smaś*, Latin (*e*)*sum*; and in 1 sing. the nasal *μ* or *ν* falls away, as it does in acc. sing. πόδα=*padam*, *pedem*. The augment is prefixed, as in strong aorist and imperfect. Thus e. g. ἔ-δεικ-σα (usually written ἔδειξα) corresponds exactly to Sanskrit *a-dik-sham* (*sh* here *euphoniae gratia* for *s*); the retention of the full vowel sound *a* involving the loss of the final nasal, which is retained where original *a* is weakened to *o*, in strong aor. and imperf. (ἔ-τυπ-ον, ἔ-τυπτ-ον), and in accus. of *o-* stems, ἔππο-ν. This retention of *a* becomes characteristic of the weak

formation
of Weak
Aorist.

aorist, the only regular exceptions being 3 sing. indic. act. $\tilde{\epsilon}\delta\epsilon\iota\zeta\epsilon$ (= *a-dik-sha-(t)*) and 2 sing. imper. act. $\delta\epsilon\iota\zeta\omicron\nu$. Several Homeric forms however exhibit the weaker vowel sound, e.g. $\tilde{\iota}\zeta\omicron\nu$, $-\epsilon\varsigma$, $-\epsilon$, Epic aor. of $\tilde{\iota}\kappa\omega$; $\tilde{\alpha}\xi\epsilon\tau\epsilon$, $\lambda\acute{\upsilon}\sigma\epsilon\omicron$, $\epsilon\beta\eta\sigma\epsilon\tau\omicron$, $\epsilon\delta\acute{\upsilon}\sigma\epsilon\tau\omicron$, $\delta\rho\sigma\epsilon\omicron$, $\omicron\iota\sigma\epsilon$; and the shortened forms $\delta\rho\sigma\omicron$, $\lambda\acute{\epsilon}\xi\omicron$, $\delta\acute{\epsilon}\xi\omicron$ with ϵ omitted, i. e. $\delta\rho\sigma\text{-}\epsilon\text{-(}\sigma\text{)}\omicron$, $\lambda\acute{\epsilon}\kappa\sigma\epsilon\text{-(}\sigma\text{)}\omicron$. [Possibly however these forms represent an older formation of weak aorist with the element σ and connecting-vowel ϵ and \omicron (as in imperf. and strong aor.) instead of the permanent stem-vowel α in $\lambda\upsilon\sigma\alpha\text{-}$, $\delta\epsilon\iota\kappa\sigma\alpha\text{-}$, etc.] 2 sing. indic. mid. $\epsilon\lambda\acute{\upsilon}\sigma\omega$ = $\epsilon\lambda\acute{\upsilon}\sigma\alpha\text{-(}\sigma\text{)}\omicron$, 2 sing. imper. mid. $\lambda\acute{\upsilon}\sigma\alpha\iota$ is anomalous; we should expect $\lambda\acute{\upsilon}\sigma\alpha\text{-}\sigma\alpha$, $\lambda\acute{\upsilon}\sigma\omega$ analogous to pres. imper. $\lambda\acute{\upsilon}\omicron\nu$, from $\lambda\acute{\upsilon}\epsilon\omicron$ = $\lambda\acute{\upsilon}\epsilon\text{-}\sigma\omicron$.

The double σ common in Homeric forms may sometimes be explained by the first σ being part of the verb-stem, e.g. $\tilde{\epsilon}\sigma\sigma\alpha$ from $\tilde{\epsilon}\nu\eta\mu\iota$ = $\tilde{\epsilon}\sigma\eta\mu\iota$, root $\tilde{\epsilon}\varsigma$; $\epsilon\delta\acute{\iota}\kappa\alpha\sigma\sigma\alpha$, $\kappa\acute{\omicron}\mu\omicron\sigma\sigma\alpha$, and similar forms from verbs in $-\zeta\omega$, where the first σ is due to assimilation of final δ ; $\delta\acute{\alpha}\sigma\sigma\alpha\sigma\theta\alpha\iota$ = $\delta\alpha\tau\text{-}\sigma\text{-}$, stem $\delta\alpha\tau\text{-}$; and perhaps $\epsilon\tau\acute{\epsilon}\lambda\epsilon\sigma\sigma\alpha$ from stem $\tau\acute{\epsilon}\lambda\epsilon\varsigma$, the full form being lost in pres. $\tau\acute{\epsilon}\lambda\acute{\epsilon}\omega$. It is more probable however that in this last case, and possibly in some of the others, $\sigma\sigma$ is due to the epic licence which we see in $\text{'}\tilde{\omicron}\delta\upsilon\sigma\sigma\epsilon\upsilon\varsigma$ beside $\text{'}\tilde{\omicron}\delta\upsilon\sigma\epsilon\upsilon\varsigma$, etc.; and this is certainly true of the forms with double σ from vowel-stems, $\tilde{\epsilon}\lambda\alpha\sigma\sigma\alpha$, $\kappa\omicron\tau\acute{\epsilon}\sigma\sigma\alpha\sigma\theta\alpha\iota$, etc.

With stems in λ , ρ , μ , ν the laws of Greek euphony did not preserve the σ of the weak aorist in contact with these consonants (except $\rho\sigma$ in a few Epic forms, $\tilde{\epsilon}\kappa\epsilon\rho\sigma\epsilon$, $\kappa\acute{\upsilon}\rho\sigma\alpha\varsigma$, $\phi\acute{\upsilon}\rho\sigma\omega$, $\tilde{\omega}\rho\sigma\alpha$; and $\lambda\sigma$ in one form $\tilde{\epsilon}\kappa\epsilon\lambda\sigma\alpha$, which survived to later times). In Aeolic the σ was assimilated (p. 70) to the stem-consonant, e.g. $\epsilon\acute{\nu}\epsilon\mu\mu\alpha\tau\omicron$, $\tilde{\epsilon}\sigma\tau\epsilon\lambda\lambda\alpha\nu$, $\epsilon\acute{\gamma}\acute{\epsilon}\nu\alpha\tau\omicron$, $\tilde{\epsilon}\tau\epsilon\nu\alpha$ (cp. Homeric $\tilde{\alpha}\phi\epsilon\lambda\lambda\alpha$), and possibly this may have been the older process. Other dialects dropped the σ and lengthened the stem-vowel in compensation; e.g. $\tilde{\epsilon}\nu\epsilon\iota\mu\alpha$ = $\tilde{\epsilon}\nu\epsilon\mu\text{-}\sigma\alpha$, $\tilde{\epsilon}\sigma\tau\epsilon\iota\lambda\alpha$ = $\tilde{\epsilon}\sigma\tau\epsilon\lambda\text{-}\sigma\alpha$, $\tilde{\epsilon}\gamma\acute{\epsilon}\nu\alpha\tau\omicron$ = $\tilde{\epsilon}\gamma\acute{\epsilon}\nu\text{-}\sigma\alpha\tau\omicron$. In Doric this was a pure lengthening of the vowels α , ϵ ; e.g. $\tilde{\epsilon}\phi\acute{\alpha}\nu\alpha$, stem $\phi\alpha\nu\text{-}$; $\tilde{\alpha}\gamma\gamma\eta\lambda\alpha$, stem $\tilde{\alpha}\gamma\gamma\epsilon\lambda\text{-}$: Ionic and Attic raised α to η , and ϵ to $\epsilon\iota$, e.g. $\tilde{\epsilon}\phi\eta\nu\alpha$, $\tilde{\alpha}\gamma\gamma\epsilon\iota\lambda\alpha$; ι and υ were simply lengthened in all dialects, e.g. $\tilde{\epsilon}\tau\acute{\iota}\lambda\alpha$, $\tilde{\eta}\mu\acute{\upsilon}\nu\alpha$.

Σ was dropped after Φ in forms like $\tilde{\epsilon}\kappa\eta\alpha$ = $\tilde{\epsilon}\kappa\eta\phi\alpha$ (with com-

pensatory lengthening); $\tilde{\epsilon}\chi\epsilon\alpha$, Homeric $\tilde{\epsilon}\chi\epsilon\upsilon\alpha = \tilde{\epsilon}\chi\epsilon\text{fa}$ (root $\chi\upsilon$ raised to $\chi\epsilon\upsilon = \chi\epsilon\text{f}$). Similarly the σ has dropped from $\tilde{\epsilon}\nu\epsilon\gamma\kappa\alpha$ to $\tilde{\epsilon}\text{!}\pi\alpha$ to avoid the collision of too many or of incompatible consonants.

The vowel of all vowel-stems is lengthened before σ in weak aorist and future, $\epsilon\pi\acute{o}\iota\eta\sigma\alpha$, $\pi\acute{o}\iota\eta\sigma\omega$ ($\pi\acute{o}\iota\acute{\epsilon}-\omega$), $\tilde{\epsilon}\lambda\tilde{\upsilon}\sigma\alpha$, $\lambda\tilde{\upsilon}\sigma\omega$ ($\lambda\acute{\upsilon}-\omega$). In derivative verbs in $-\alpha\omega$, $-\epsilon\omega$, $-\omicron\omega$, which all = $-aj\acute{d}mi$ (formed by suffix $-ja$), the length of the vowel is natural as expressing a contraction; and from this large class of verbs it may have passed by analogy to others. A few exceptions are seen in such forms as $\epsilon\acute{\kappa}\alpha\lambda\epsilon\sigma\alpha$, $\kappa\alpha\lambda\acute{\epsilon}\sigma\omega$; $\eta\text{!}\rho\omicron\sigma\alpha$, $\acute{\alpha}\rho\acute{o}\sigma\omega$ (from $\acute{\alpha}\rho\acute{o}\omega$), $\eta\text{!}\nu\epsilon\sigma\alpha$ from $\alpha\acute{\iota}\nu\acute{\epsilon}\omega$.

In conjunctive forms a is lengthened to ω , η by the addition of the mood-sign (see above, p. 172), and the endings are then similar to those of pres. conj., σ alone marking the tense, e.g. $\lambda\acute{\upsilon}\sigma\omega$, $\lambda\acute{\upsilon}\sigma\eta-s$, etc., $\lambda\acute{\upsilon}-\sigma\omega-\mu\alpha\iota$. In optative forms the suffix ι makes with a a diphthong— $\lambda\acute{\upsilon}\sigma\alpha-\iota-\mu\iota$, etc. The 'Aeolic optative' in $-\sigma\epsilon\iota\alpha$ seems to be formed with the suffix ja ($\eta\eta$, ϵ , p. 173), but with the indicative weak aorist terminations, e.g. $\lambda\upsilon\sigma\epsilon\acute{\iota}\alpha$, $-as$, $-\epsilon$, etc., instead of $\lambda\upsilon\sigma\epsilon\acute{\iota}\eta\nu$, which would be expected on analogy of $\tau\acute{\iota}\theta\epsilon\acute{\iota}\eta\nu$, etc. The a of weak aorist-stem in these forms has sunk to ϵ — $\lambda\acute{\upsilon}\sigma\epsilon-\iota\alpha$; but a feeling that a was characteristic of this tense led to its retention in the suffix $-\iota\alpha$, which usually becomes ϵ or η , though the letter there had really nothing to do with the tense formation.

5. The Future Tense (Greek).

The characteristic Greek future termination in $-\sigma\omega$ is not (as has by some scholars been supposed) connected with the weak aorist $-\sigma\alpha$, except in being originally a tense formation from the same root as ($\epsilon\varsigma$). From this root as ($\epsilon\varsigma$) language developed a present form by the addition of ja (see above, p. 191), viz. $as-j\acute{a}-mi$ = in Greek $\acute{\epsilon}\sigma\acute{\iota}\omega$ (a hypothetical form), the middle of which, $\acute{\epsilon}\sigma\acute{\iota}\omicron\mu\alpha\iota$, becomes $\tilde{\epsilon}\sigma\sigma\omicron\mu\alpha\iota$. The supposed form $\acute{\epsilon}\sigma\acute{\iota}\omega$ is preserved (with loss of the ι sound) in Latin ero (= $esio$). The suffix ja ($\acute{\iota}$) is perhaps identical with the root ι , 'to go,' seen in $\acute{\iota}-\mu\epsilon\nu$, $\acute{\iota}-\rho\epsilon$: and if this be so, $as-j\acute{a}-mi$ or $\acute{\epsilon}\sigma-\acute{\iota}\omega$ = 'I go to be,' a natural mode of expressing future time by the addition of an

Formation
of Greek
Future -σω.

auxiliary verb analogous to *je vais faire* in French, 'I am going to do' in colloquial English, and the Latin form *datum iri* for fut. infin. pass.

With this *εσίω* = 'I go to be,' other verbs are compounded in order to acquire a future, just as e.g. the perfect-stem in Latin is compounded with *ero* in *cecid-ero*, *amav-ero*; the initial *ε* of the root *εσ* being lost in the process as in the weak aorist formation (above, p. 197) and in Latin *sum*; so that -*σιω* becomes the normal future termination. The future of stems in λ, ρ, μ, ν, e.g. *τενῶ*, *φανῶ*, *μενῶ*, *νεμῶ*, *βαλῶ*, etc. (which evidently arise from -*εσω*, by loss of σ and contraction of -*εω*, so that *μενῶ* = *μενέω* = *μενέ-σω*) show an *ε* between the stem and σ which is sometimes supposed to belong to the root *εσ*; on which supposition there would be a distinct and older class of future forms, with the addition of the fuller form -*εσιω* to the verb-stem. The analogy however of certain Sanskrit forms, e.g. *tan-i-shyā-mi* = *τεν-ε-σίω* (whence *τενέ-σω*, *τενέ-ω*, *τεν-ῶ*) seems to justify the view taken in Curtius' Greek Grammar, § 262, that the *ε* is a sort of connecting-vowel appended to the stem in satisfaction of the laws of Greek euphony which (as we saw in the case of the weak aorist above, p. 198) did not tolerate an σ in close juxta-position with λ, μ, ν, ρ. In the case of the weak aorist of such stems as e.g. *φαν*, σ disappeared from the contact—*ἔ-φην-α* = *ἔφαν-σα*: in the future it was retained in the first instance by the intervention of *ε* (*φαν-έ-σω*), but then disappeared in accordance with another euphonic tendency to drop σ between two vowels (p. 63). And as in the case of the weak aorist a few exceptional (chiefly Epic) forms remain in which σ survives in contact with ρ and λ, so in the future we find exceptional (chiefly Epic) forms like *κέρσω*, *κύρσω*, *θέρσονται*, and *κέλσω*, which show the shortened form in -*σιω* = -*σιω*, and that at quite an early stage of the language. Other futures which show traces of this connecting-vowel *ε* between the stem and the future-ending are *ἐδοῦμαι* = *ἐδέ-σομαι*, *πесоῦμαι* = *πεσ-έ-σομαι*, *μαχοῦμαι*, Epic *μαχέσομαι*, *μαχέσσομαι*. [This last form, if it be true that *ἔσσομαι* = *ἐσίομαι*, would rather countenance the view that the *ε* belongs to root *εσ*- of the suffix; and it is no

doubt impossible to pronounce with any certainty that it is ^{Greek Fu-}ture.
not so.]

Σ has similarly been lost and the vowels contracted in βῆβῶ (= βῆβᾰσω, βῆβᾰω), ἐλῶ, δαμῶ, the so-called 'Attic futures.' σ has been lost without contraction in the Homeric forms ἀνύω (Il. iv. 56), ἐρύω (xi. 454), τανύω (Od. xxi. 174). These forms have become like present-forms by loss of σ, but there are others which really are present formations to which a future meaning has attached, notably εἰ-μι, ἴβo: compare the forms (chiefly Epic) ἔδομαι, πίομαι, βέομαι or βείομαι, δῆω, etc.

Future (Latin).

Here we find two distinct forms: 1. a modified form of pres. ^{Two forms of Latin Future.} subj. (with consonant and *i-* or *u-* stems) which like *sim*, etc. (see p. 174) is probably an optative form. With *a-* and *e-* stems however this form, if used for the future, would lead to confusion with pres. subj. in the one case (*amemus*), with pres. indic. in the other (*monemus*); and with these verbs, accordingly, we find another form, *ama-bo*, *mone-bo*. A similar future in *-bo* (besides the more usual form in *-am*, *-es*, *-et*) is found from *i* stems in earlier writers (Plautus, Terence, etc.), e. g. *aperibo*, *adgredibor*, *scibo*, etc.; but none of these forms survived in use in the 1st century B.C. except *ibo*, *quibo*, *nequibo*. Propertius has *lenibo*; and *per contra* we find *veniet* for the more usual *venibit* (future of *veneo*=*venum eo*) in the Lex Thoria, 112 B.C., and *exiet* in Seneca. [The *pulterior exiet* of Hor. Od. iv. 4. 65, though accepted by Orelli, has very little MS. authority; *evenit* is probably correct.] *Dicebo*, *fidebo* are also quoted from old Latin.

This termination *-bo*, like *-bam* of the imperfect and *-ui*, *-vi* ^{Future in -bo.} of perfect (see p. 181), is generally supposed to be a tense-form of the stem *fu-*, 'to be,' whence *fui*, *fore*, etc. Opinions however differ as to what precise tense-form it represents, two explanations being given:—

1. *-bo*=*fu-o*, a present formation: thus *ama-bo* would be analogous to 'I am to love.'

2. *-bo*=*bu-i-o*, *fu-i-o*; a form analogous to *εἶσιω*, *esio*, *ero*, and = 'I go to be' (see above, p. 199). This latter is more

Latin Future in -bo.

generally adopted, perhaps on account of the close analogy which it presumes between Greek and Latin in the formation of the future, Greek taking one form of auxiliary (εσ-), Latin the other (*fu-*).

Was this future in -bo the original form of all futures in Latin? Curtius (*Temp. und Modi*, p. 324) thinks not, because it is contrary to all analogy that language should proceed from a compound to a simpler form. The most primitive usage, he thinks, was to employ the optative form (*dicem, faciem*) as future: the form in -bo being a later form, and as such applied mainly to the derivative verbs of 1st, 2nd, and 4th conjugations, and but little to consonantal stems. Forms therefore like *sugebo, dicebo, vivebo* (which are very few in number), are not relics of an earlier formation for consonantal stems, but anomalous later forms on the analogy of *a-* and *e-* verbs.

The ordinary 'futurum exactum' or 'Completed Future' (*amav-ero, cecid-ero*, etc.) is, as has already been noticed (p. 200), a compound form; the future (or pres. with fut. signification) of stem *es-*, i.e. *ero=esio*, being added to the perfect-stem, the characteristic *i* of which vanishes; *amav-ero, scrips-ero, tetig-ero, ded-ero*, etc.

Futures in -so, -sim, -sere.

In the older language of Plautus, old laws, and formularies, etc., is found a series of future forms with characteristic *s*; viz. indic. -so or -sso (*facso, amasso*, etc.); subj. -sim or -ssim (*faxim, ausim, locassim*); infin. -sere or -ssere (*reconciliassere*, Plaut.); pass. indic. -situr or -ssitur (*mercassitur*, Lex Thoria; *jussitur*, Cato; *faxitur*). A number of other examples are given in Roby's Latin Grammar, i. §§ 619, 620: but almost the only forms which survived after Terence are *fazo, faxis; ausim, ausis*. Terence has besides *excessis* (And. iv. 4. 21) and *apellassis* (Phorm. v. 1. 15); Lucretius has *cohibessit* (iii. 444); Cicero, *di faxint*; Catullus, *recepso* (xliv. 19) and *tepefazit* (lxviii. 29); Vergil, *jusso* (Aen. xi. 467). Two explanations of these forms are given:—

1. On the analogy of *amassem, amasse, consussem*, etc., and other forms acknowledged as syncopated (*diasti, extruaxem, consumpse*, etc., see Wordsworth's *Introd.* xviii. 12, p. 149), these

forms are regarded as formed by the addition to the *perfect-* Latin Fu-
stem of *-so=-ro* of the ordinary 'futurum exactum,' the *ē* pre-
tured in *-so*,
ceding this *-ro* (*amavēro*) being on this view regarded as the
i of perfect-stem shortened to *ē*, as abl. *-ī* to *-ē* (p. 117). Thus
amasso=amavi-so=amave-so=amavero. [Schleicher in fact
classes the forms in *-so* under the head of 'futurum exactum,'
of which he distinguishes (a) the shorter and older form *-so*
added to pure verbal-stem; (b) the longer and later form in
which *-so* is added to the perfect-stem, including the ordinary
forms *amavero*, etc., and the syncopated forms *amasso*, etc.]
To this view two objections are made: (1) that it does not
account for forms like *cap-so*, *rap-so*, *fazo* (*fac-so*), *prohibesso*,
etc., where the *present-* and not the perfect-stem seems to be
employed; (2) that it does not properly account for the double
s; the view that this *ss* is not a compensation for the loss of
v or *ui* being not only conjectural, but contrary to the analogy
of other contracted forms. *Amaveso*, by loss of *v*, would more
naturally become *amaeso*, *amāso*, *amāro*; or if it did become
amavso, it would contract to *amauso* or *amūso* (cp. *amāram=*
amaveram, *navita=navita*, *aetas=aevitas*, etc.). Accordingly
others explain these forms as—

2. Formed from the *present-stem*, like the Greek future in
-σω: *-so*, *-sim*, *-sere* being respectively a future indicative, sub-
junctive, and infinitive, formed by the addition of *s* to the stem;
a final *ī* or sometimes *e* of the stem being dropped, as in *fac-so*
(*fazo*) from stem *facī*; *sponso* (*spondso*) from stem *sponde*;
ausim (*aud-sim*) from stem *aude*. Other *e-* stems preserve the
vowel, *prohibessit*, *cohibe-ssit*, etc. The double *s* in these forms
and those from *a-* stems may possibly be due to a mistaken
analogy from the forms *amasse*, *consuessem*, etc., for *amavisse*,
consuevissem, etc.: or it may have been a mode of marking the
accent, or of preserving by additional stress the characteristic *s*;
a single *s* between two vowels, as we have seen (above, p. 62),
being very rare and almost always changed to *r*. It may be,
therefore, that in pronunciation of these forms the desire to
retain what was characteristic of meaning, viz. *s*, struggled
against the phonetic tendency to resolve *s* into *r*; and that the

Latin Futures in -so, etc.

success of this effort affected orthography in the *ss* of the forms in question.

The objection urged to this explanation is the difficulty of regarding *ss* as merely the result of accent in pronunciation; a view which has already been set aside in the explanation of the superlative termination *-issimus* (see above, p. 126): but upon the whole the difficulty appears less than those which attend the other explanation.

[N.B. The verbs *arcesso*, *capesso*, *facesso*, *laccio* are probably similar formations, originally future, from *arcio* (= *ad-cio*, see p. 61), *cipio*, *facio*, *lacio*; but they have been treated as present-stems, and so received fresh inflections of tense and mood. Similarly *incesso* (= *inced-so*, p. 70) is formed from *incedo*: and *petesso* or *petisso* (Cicero, *Tuscul.* II. xxvi. 62: Lucretius, iii. 648, v. 810) is probably a like form from *peto*.

6. Tenses formed from the Perfect-stem (Pluperfect, etc.).

Pluperfect;
Greek and
Latin.

(a) *Greek Pluperfect.* A preterite of aorist form from the root *εσ-* (*εσ-αμ*, *εσα-ς*, etc.) is added to the perfect-stem, the augment being prefixed. Thus from *πέιω*, perfect-stem *πέποιθ-*, we have pluperfect *ἐπέποιθ-εσα(μ)*, whence Epic *ἐπέποιθεα*, contracted naturally into *ἐπέποιθη*, which is found in old Attic; *-ν* being added as secondary form of 1 pers. inflection. In 3 sing. however *a* became *ε*, *ἐπέποιθ-εσε(τ)*, *ἐπέποιθεε*; and the natural contraction was to *ει* in *ἐπέποιθει*. This *ει* having become usual in 3 sing. was transferred by a false analogy to 1 plur. and dual (*ἐπέποιθέσμεν*, *ἐποιθέμεν*, *ἐπέποιθημεν*), giving e.g. *-ειμεν* as its termination, and then to 1 sing. giving *-ειν* instead of *-ην*; the extreme point of confusion being reached when in 3 plur., where alone the full form was retained [*ἐπέποιθεσαν(τ)*] and there was never any contraction, the *ει* representing a contraction was introduced, giving *-εισαν* as the termination. But this *-εισαν* of 3 plur., though always given by grammars, is rarely found in the best MSS. of Greek authors: and many good MSS. of Plato and Thucydides give in 1 sing. *-ην*, not the later and incorrect form *-ειν*.

(b) *Latin Pluperfect.* Here *-eram*, *-as*, *-at*, etc. added to the

perfect-stem is obviously the same formation as Greek *ἴσα(μι)*: Latin Plu-
 Latin retaining fuller forms in 1 sing. and 3 plur. perfect.

(c) '*Futurum exactum*' (Greek), by the addition of *σ* (see above, p. 200) to the lengthened perfect-stem in active voice *τεθνήξω* (-κσω), *ἰστήξω*; to perfect-stem in the middle forms *λελύ-σμαι*, *πεπράξ-ομαι* = *πεπράγ-σμαι*, *γεγράψ-ομαι*, etc.

(d) '*Futurum exactum*' (Latin), by addition of *er-o*, etc., to perfect-stem (see above, pp. 200, 202).

7. Imperfect Tense (Latin).

The imperfect in *-bam*, like the future in *-bo*, appears to be Latin Im-
 an exclusively Italian formation, found in all Latin verbs except perfect in
sum, and supposed to be formed from the parallel root *fu-* as
eram from *es*. *Fu-am*, then, is the original of *-bam*; the process
 of change being according to some the loss of *u* and change of
f to *b*, *-fuam*, *-fam*, *-bam*; according to others, loss of *f* and
 hardening of the *u* (consonantal = *w*) to *b*, *-fuam*, *-uam*, *-bam*.
 This termination *-bam*, *-bas*, etc., is added directly to most pure
 vowel-stems, e. g. *dā-bam*, *stā-bam*, *quī-bam*, *i-bam*, and to
 derived vowel-stems in *-a*, *-e* (*amā-bam*, *monē-bam*): but with
 derived verbs in *ī* (4th conjug.) and consonantal stems, a long
 vowel is inserted between the stem and the termination, e. g.
audi-ē-bam, *reg-ē-bam*. In old Latin poetry this *ē* is often not
 found with *ī* stems, e. g. *ai-bam*, *sci-bam* (Plaut., Ter., Lucr.,
 Catull.); *servi-bas* (Plaut.); *insani-bas* (Ter.); *saevi-bat* (Lucr.
 v. 1003), etc.; and so in later poetry—*audi-bant* (Catullus,
 lxxxiv. 8); *largi-bar* (Prop. i. 3. 25); *leni-bant* (Verg. Aen. iv.
 528), *nutri-bant* (vii. 485), *redimi-bat* (x. 538), etc. These
 instances are chiefly poetical, and the probability is that *-ībam*
 is not an original form, but a contraction for *-iebam*: and
 further, that for all derived verbs the form was originally
-ē-bam, but that with *a-* and *e-* stems it coalesced with the
 stem-vowel (*monē-e-bam*, *monē-bam*). The origin of this *ē* is
 doubtful: some explain it as the lengthening of the ordinary
 connecting-vowel: others as being merely transferred from the
 derived verbs in *ē-*, by false analogy, to the 3rd and 4th con-
 jugations; others (e. g. Bopp) as part of the suffix *-aja*, which
enters into the formation of derived verbs in ā-, ē-, ī- (p. 194).

Latin Im-
perfect.

and therefore confined in the first instance to these derived verbs. In support of this latter view it is urged that the parallel future form in *-bo* is general with some derived verbs (in *ā-* and *ē-*, 1st and 2nd conjugation), not unfrequent in others (*ī-* stems), and very rare in consonantal stems. If this view be correct, the *ē* with consonant verbs *reg-e-bam*, etc., will be the result of false analogy from the vowel or derived stems in *a-*, *e-*, *i-*. Another suggestion, that in the long *ē* we have the effect of a stem-vowel coalescing with the augment prefixed to the auxiliary (*ē-bam*), contradicts all analogy, not only of the Latin language, which exhibits no trace of having used the augment, but also of the Greek, where in compound tenses the augment always leaves the auxiliary and takes its place at the beginning of the whole compound, e.g. *ἔλυσσα* not *λύ-σσα*: so too in Sanskrit, *ā-dik-sham*, not *dik-a-sam*.

The original quantity of *ā* in the termination *-bām* is preserved throughout, except in 3 sing., which was shortened (as *amat*, *monet*, *regit*, etc., see p. 164) in dactylic verse, from Ennius downwards; the old quantity being seen in Enn. Ann.

141,—

‘Noenum rumores ponebat ante salutem;’

and (perhaps as an intentional archaism) in Verg. G. iv. 137; Aen. v. 853.

8. Aorist Passive (Greek).

Greek Aorist
Passive.

The two passive aorist-stems in the Greek verb are distinguished from other passive forms by *active* person-endings: whence it seems probable that their passive meaning lies in the stems themselves, i. e. in the elements ϵ (η) and $\theta\epsilon$ ($\theta\eta$) appended to the verb-stem. The precise connection, however, of these elements with the meaning in question is matter of conjecture:—

‘Strong’ or
2nd Aorist.

(1) For the ‘strong’ 2nd aorist-stem ϵ is added to the root, raised in indicative and imperative to η , and treated as a root-vowel, the augment being prefixed. Thus from root $\phi\alpha\nu-$ is formed the aorist stem $\acute{\epsilon}\text{-}\phi\alpha\nu\text{-}\epsilon$; indic. $\acute{\epsilon}\text{-}\phi\acute{\alpha}\nu\eta\text{-}\nu$; imper. $\phi\acute{\alpha}\nu\eta\text{-}\theta\iota$; conj. $\phi\alpha\nu\acute{\epsilon}\text{-}\omega$, $\phi\alpha\nu\acute{\omega}$; opt. $\phi\alpha\nu\acute{\epsilon}\text{-}\iota\eta\text{-}\nu$. Curtius (Temp. und Modi, pp. 329–30) suggests that this ϵ (or $\acute{\epsilon}$) has arisen from the root

jâ='to go,' which in Sanskrit is employed in the formation of passive verbs (cp. *venum eo* or *veneo*=passive of *venum do* or *vendo*), and which e.g. in *ἵμι* has a causative force='I make to go.' But this is only a conjecture: and it is equally probable that *ε* is a mere increase of the stem, such as is found e.g. in the derived verbs, whose stems are sometimes treated as if their final letter were the final letter of the root itself; compare Aeolic *φίλη-μ*.

(2) The 'weak' or 1st aorist-stem is distinguished from the other by *θ* between the verb-stem and *ε* (*η*). We may say either that *ε̄* (*η*) is appended to the verb-stem increased by *θ* (instead of to the pure verbal-stem as in 2 aor.); or that *θε* (*θη*) is appended to the pure verbal-stem; analysing e.g. *ἐπράχθη*ν (stem *πραγ-*) either into *ἐπράχ-θη-ν* or *ἐπράχθ-ην*. The form probably stands in more or less close connection with numerous other formations in which the same consonant *θ* appears: e.g. the present-stems *τελέθω*, *φθινύθω*, *μινύθω*, *πρήθω* (stem *πρα-* of *πίμπρημι*), *πλήθω* (*πλα-*), *ἔσθω* (Epic)=*ἔδ-θω* (by dissimilation, see p. 75), from which with a further suffix *ε=jâ* is formed the present-stem *ἔσθει* in *ἐσθίω*, or the preterites *ἔσχε-θ-ον*, *ἡμίνα-θ-ον*, *ἡγέρε-θ-οντο*, etc. This *θ* is perhaps the remains of the root *θε-* (*dha-*)='to place,' used in the sense of 'to do' or 'make:' and in the *θε* (*θη*) of 1 aor. pass. we may perhaps recognise a combination of this root *θε-* with the *ε=jâ* already mentioned. But how it comes to have a passive meaning is an unsolved difficulty.

(3) From these two aorist passive-stems are formed two futures by the addition of the ordinary future termination (see p. 199) with middle person-endings, *φανή-σομαι*, *λυθή-σομαι*. They are apparently late formations; the weak aor. in *-θησομαι* not occurring at all in Homeric Greek, and the strong aorist only in *μυγήσεσθαι* (Il. x. 365).

9. Tenses of the Subjunctive Mood in Latin.

(1) The Present Subjunctive has been explained above, pp. 172, 174.

(2) Imperfect Subjunctive. The *-rem* which in 1st, 2nd, and 4th conjugations is added directly to the present-stem, and in

Greek
Aorist Pas-
sive.

'Weak' or
1st Aorist.

Greek Fu-
ture Passive.

Latin Sub-
junctive:
Present.

Latin Sub-
junctive:
Imperfect.

3rd conj. with a connecting vowel *e* (*ama-rem, mone-rem, audi-rem, dic-e-rem*), probably = *-sem*, i.e. *-erem* or *-esem*; an optative form of *eram, esam* analogous to *amem*. Thus in 1 plur. *eremus, eramus*; *amemus, amamus*. This *-erem* (*-esem*) therefore originally = *esa-i-m* (see above, p. 175). For the double *s* in *essem*, the ordinary imp. subj. of *sum*, different explanations have been suggested. Pott, followed apparently by Roby (Latin Grammar, § 609), makes *essem* = *es-sem*, the first *s* belonging to the stem, the second to the suffix *-sem* (*-rem*). But in the plup. subj. *fecissem* evidently = *feci* + *-sem*, and the two forms can hardly be treated differently: moreover we have traces in old Latin of both forms with a single *s*, e.g. *eset, esetis, esent* on S. C. de Bacch. (Appendix I. ii); *fuissem* is also said to occur. The form *essem* from *edere* is a case of assimilation = *ed-sem*; similarly *possem* = *pot-sem* (*pot-est, pot-is*), *ferrem* = *fer-sem*, *vellem* = *vel-sem* (see above, p. 70).

Pluperfect.

(3) The *Pluperfect Subjunctive* is apparently formed in the same way from the perfect-stem, by adding *-sem*, the *s* becoming *ss* in the ordinary conjugation of all verbs; *amavi-sssem, rexi-sssem*. Schleicher (Comp. § 301) thinks that the forms *vixem* (Verg. Aen. xi. 118), *extinxem* (Aen. iv. 606), *confluxet* (Lucr. i. 987), etc., are not, as is usually supposed, syncopated forms of *vixissem, extinxissem, confluisset*, etc., but relics of an older formation by the addition of *-sem* to an older perfect-stem without *i* or *is*: the ordinary forms in *-issem* being an addition of *-sem* to the *-is*, which, as we have seen above (p. 182), there is reason to suppose was characteristic of the perfect-stem, surviving in the terminations *is-ti, is-tis, is-se*. The comparison however of these forms with those acknowledged to be syncopated, e.g. *dixti, intellexti, misti, accestis, consumpse, traxe, promisse*, etc., rather points to the conclusion that the pluperfect forms in question are later contracted forms.

Perfect.

(4) The *Perfect Subjunctive* is formed by adding *-sim* = *-siem* to the perfect-stem in *i*: thus *feci-sim*, which becomes *fecerim*; the formation thus bearing some analogy to that of the perfect subjunctive passive by the auxiliary *sim* (*amatus sim*), just as the 'futurum exactum' *amav-ero* bears to the fut. pass.

amatus ero. The original length of the *i* in *sim*=*siem* appears in *fueris*, *dederis* (Hor. Od. iv. 7. 20), *dederitis*, etc.; though, as has been already noticed (p. 172), the confusion with *i* of the 'futurum exactum' has led to frequent intermixing of the quantities in both tenses¹; *i* is properly characteristic of perf. subj., *ī* of completed future indic.

INFINITIVES AND PARTICIPLES.

The Infinitive is not a 'Mood,' its various forms being nothing more nor less than cases of verbal nouns: and Philology and Grammar alike must begin by getting rid of the misnomer 'Infinitive Mood,' for the proper understanding of its real nature and historical development. The analysis by Grammar of the syntactical uses of the infinitive points to its being a verbal-noun, sharing the properties both of noun and verb²: (1) of a *noun*, in that it expresses the action of the verb in general, like nouns of action, and in Greek becomes a verbal-noun by combination with the article; (2) of a *verb*, in admitting inflections of voice and tense, in governing the case of the verb to which it belongs, in being qualified by adverbs and not by adjectives, and (in Greek especially by combination with *ἀν*) in sharing the functions of mood in *oratio obliqua*. And the analysis by Philology of the forms of the infinitive leads us still more surely to the same conclusion; so that there is no class of grammatical forms of which the first origin and subsequent development can be more certainly traced, and a meaning more clearly seen to underly what meets us in Greek or Latin Grammar as an apparently unmeaning form.

I. In *Greek* we find two forms of infinitive, (1) the older Homeric infinitive in *-μεναι*, *-μεν* (*ἔδ-μεναι*, *ἀμυνέ-μεν*); (2) the form in *-εσθαι*, *-ειν* (*λελοιπ-έναι*, *λείπ-ειν*). *-μεναι* corresponds to Sanskrit *manāḥ* (*manai*), the dative of a suffix *man-*, by which a large number of nouns are formed in Sanskrit, Greek, and Latin³; e. g. from Sanskrit *gnā*, 'to know,' is formed (*g*)*ndāman*,

Infinitive
not to be
classified as a
'Mood.'

Greek Infinitive in
-μεναι, *-μεν*.

¹ For examples of this confusion, see Roby, 'Latin Grammar,' § 592.

² See Roby's 'Latin Grammar,' vol. ii. §§ 1342, 3.

³ See Max Müller's 'Chips from a German Workshop,' vol. iv. p. 33.

Greek Infinitive in
μεναι, -μεν.

Latin (*g*)*nomen*, that by which a thing is known, its *name*: while from the corresponding Greek stem γνῶ- is formed γνῶ-μων (γνῶ-μων-ος) = 'a knower,' the suffix -μεν (= -*man*) being used in Greek chiefly for forming masculine nouns, τλήμων, ποίμην, etc. In Latin -*mēn* is a common termination of abstract nouns in the neuter gender, e. g. *teg-men*, *sola-men*, *car-men*, *tuta-men*, etc.: and if we took the dative case of one of these forms to express the object of doing anything, and said *canes fecit tutamini domum*, we should have an exact equivalent to the Homeric expression κύνας ἔτευξε φυλασσέμεναι δόμον, 'he made dogs for the protection of the house.' Thus the notion of *purpose* or *object* is in reality the primary notion of the infinitive; and the expression in English of both dative case of nouns and infinitive by the same preposition *to* ('I come *to* say this *to* him') reflects a philological truth.

[The above explanation of -μεναι is that preferred by Professor Max Müller, to whose 'Chips from a German Workshop,' vol. iv. I am indebted for the statement here given. There is, however, another explanation, viz. that -μεναι is the *locative* of a suffix -*mana* (-*mana-i*, cp. p. 118), which, as will be shown below (p. 216), appears as a participial suffix in Greek (φερό-μενο-ς) and in the isolated Latin form *ama-mini* (sc. *estis*, see p. 167); -μεναι would, on this view, be a locat. sing. fem. of a verbal-noun formed by this suffix, analogous to χαμα-ι from stem χαμα-. This explanation appears at first sight more suitable in the case of 1 aor. infin., e. g. λύσαι from stem λυσα- (p. 197): but it cannot show the same clear coincidence of form and meaning as the other view; and the analogy of -μεν-αι, when the consciousness of its being a dative was lost, would tend to produce similarity of termination in λύσαι, though the dative of stem λυσα- would properly be something different (λύσα-αι, λύσα-, see p. 120). The -αι, however, was not felt to be dative any more than locative, and would assert itself by analogy as the right termination.]

The infinitive in -μεν is probably an abbreviation of that in -μεναι; though it has been suggested that -μεν may be an archaic accusative corresponding to Latin accusatives like *teg-*

men, etc., and expressing the general object of certain acts or movements.

But besides the form in *-μεναι*, we find a form in *-εναι*: thus ^{2. Infinitive in -εναι.} in Homer we find both *ἴ-μεναι* and *ἰ-έναι*, *ἔμ-μεναι* (= *ἔσ-μέναι*) and *εἶναι* (= *ἔσ-έναι*). Bopp and others have accounted for this form by supposing the loss of *μ*: but it is more probably a collateral formation from another suffix *-van* or *-an*, added to verbal bases in the Indo-European languages. 'By the side of *dāman*, the act of giving, we find in the Veda *dā-van*, the act of giving, and a dative *dā-vāne*, with the accent on the suffix, meaning "for the giving," i.e. "to give." Now in Greek this *v* would necessarily disappear, though its former presence might be indicated by the *digamma aeolicum*. Thus, instead of Sanskrit *dāvāne*, we should have in Greek *δοFέναι*, *δοέναι*, and contracted *δοῦναι*. . . . In the same manner *εἶναι* stands for *ἔσ-Fέναι*, *ἔσ-έναι*, *έέναι*, *εἶναι*. Hence *λέναι* stands for *ἰFέναι*, and the accent remains on the suffix *-van*, just as it did in Sanskrit.'

The regular infinitives of the perfect active (*λελοιπ-έναι*) and of the verbs in *-μι* (*διδό-ναι*, *ιστά-ναι*, *τιθέ-ναι*) should be referred, according to Professor Max Müller, to the parallel suffix *-an*, dative *-ane*, for which again he quotes parallel forms in the Sanskrit of the Veda. Schleicher, who regards these forms as locatives, refers them to a kindred suffix *-ana*, which appears in the formation of substantives in Greek (*δρέπ-ανο-ν*, *τύμπ-ανο-ν*, *ἄγχ-όνη*, *στέφ-ανο-ς*, etc.) and Latin (*pag-ina*, *dom-ino-ς*, *sarc-ina*, etc.).

The ordinary infinitive in *-ειν* is generally regarded as formed ^{Infinitive in -ειν.} by transposition of *-ενι*: e.g. *φέρεινι* becomes *φέρειν*, just as *φέρει-σι* becomes *φέρεις* (above, p. 161). As to the form *φέρεινι*, opinions differ: some regarding it as a phonetic corruption of *φέρειναι*, while others, who hold that *φέρειναι* is dative, suppose the existence of a locative in *-ι* side by side with the dative in *-αι*¹. The Doric form in *-ειν*, e.g. *ἄειδεν*=*ἄειδειν*, appears to arise from dropping the final *ι*, instead of throwing it back into

¹ Max Müller, 'Chips,' iv. p. 35.

the previous syllable; compare the Doric form of 2 sing. ἀμέλ-
γες with the ordinary form ἀμέλγεις=ἀμέλγεις.

Infinitive in
-σθαι.

The middle and passive infinitives in -σθαι, -θαι (δίδο-σθαι, τῖπτε-σθαι, τετίφ-θαι) are explained by Schleicher and others as dative feminine formations from a suffix *dhi*, i. e. *dhj-ai*, *θjai*. The *σ* in -σθαι may possibly owe its origin to analogy from other middle forms with *σθ*, viz. -σθε, -σθον, -σθην, -σθων, in which *σ* is perhaps original (see above, p. 170); or it may be a phonetic strengthening of -θαι (see p. 162, on the 2 sing. -σθα); or it may be (as Bopp suggested) the reflexive pronoun *σε*=*ε* expressive of the middle and passive voice, as in Latin, prefixed to the termination -θαι; or -σθαι may arise by regular phonetic processes of assimilation and dissimilation from -θjai (a view stated, but not explained, in the manual by Baur referred to in the Preface). The existence of so many different explanations only shows how little can really be known with certainty of the origin of this form. In τετίφ-θαι=τετίπ-σθαι, *σ* has been omitted for phonetic reasons, and *π* assimilated to *θ*.

II. The forms of infinitive in *Latin* are:—

- (i) Active: -re in *amare*, *monere*, etc.
-se of perfect *amavisse*, and *esse*, *posse*.
-le in *velle*, *nolle*, *malle*.
- (ii) Passive: -ri or -i in *amari*, *moneri*, *regi*.
-ier (archaic) in *farier*, etc.

Latin Infinitive Active -se, -re.

(1) The three terminations of infin. act. are really the same, viz. -se=-sei, originally the dative case of a verbal substantive whose stem ended in -as, dat. -asai; the -as being the same termination as that of fem. substantives in -es (*sedes*, *labes*), or neuter in -us, -ur=Greek -os (*genus*, *robur*, γένος). Sanskrit has a corresponding dative formation, also used as infinitive; e. g. *gīv-āse* (from *gīv*, 'to live'), *kar-āse* (root *kar-*): and Latin *vehe-re*=Sanskrit *vah-asê*.

The older form -se is retained in the perfect *amavis-se* (the perfect-stem ending in -is, see above, p. 182), in *es-se*, 'to be,' and *es-se*=*ed-se*, 'to eat,' and in *pos-se*=*pot-se*; *s* is assimilated to the final consonant of the verb-stem in *ferre*=*ferre*, and *velle*,

nolle, malle = *vel-se, nol-se, mal-se*. When added to the present-stem *s* becomes *r* after the vowel of *ā*-, *ē*-, and *i*- stems, and the connecting-vowel by which it is attached to consonantal and *u*- stems (*reg-e-re, tribu-e-re*); the *-i* of *ī*- stems becoming *ē*, as in *capē-re*, present-stem *capī*-. Latin Infinitive Active.

[It should be noted that some philologists consider *-ēre* = *-ēse* = *-asai*, and not *-rē*, to be the infinitive suffix¹. On this view the penultimate *ē* of *reg-ēre, cap-ēre* is part of the original suffix, the *ī* of stem *capī*- disappearing before it: while in *amāre, monēre, audire*, the initial *ē* of the suffix is absorbed into the long vowel of the stems *amā*-, *monē*-, *audī*-.]

The final vowel of the infinitive was originally *ē* (= *ei, ai*²), Original final ē. and traces of this are found in Plautus, e.g. Truc. ii. 4. 74 (iambic trimeter):—

‘Non aúdes aliquod mīhi *darē* munúsculum?’

and Pseudolus, i. 3. 135 (Weise), trochaic tetrameter catalectic:—

‘Égo scelestus nūc argentum *prómerē* possúm domo.’

It is still oftener found before the ‘caesura’ pause in tetrameters and tetrameters catalectic, e.g. *Asinaria*, ii. 4. 14 (iamb. tetram. catal.):—

‘Abscéde, ac sine me hunc *pérderē*, qui sémper me ira incéndit.’

So *darē*, Ter. Heaut. iv. 4. 2 (724) and other examples quoted by Wordsworth (Fragments, p. 152) from Corssen.

The other Italian dialects have an infinitive form in *-om*, *-um*, *-o*, apparently an accusative case of a verbal substantive formed from the verbal-stem without any suffix, like *venum*, *pessum*, in *venum eo* (*veneo*), and *pessum do*; and the ordinary supine in *-um* to which attaches a dative or infinitive meaning, e.g. *spectatum veniunt*, ‘they come to see.’

(2) Passive infinitive in *ri-er, i-er* (*-ri, -i*).

(a) One explanation of these forms makes *i-er* = *i-se*, i.e. a Passive Inf. in -ier. passive or reflexive formation from the infinitive active analogous to *amo-r* from *amo*- (see p. 167). Thus *amari-er* =

¹ Roby, ‘Latin Grammar,’ i. § 611.

² See Corssen, *Ueber Aussprache*, etc., ii. pp. 474, 5, 2nd ed.

Latin Infinitive Passive in *-ier*.

amare-se: while for consonant-stems a shortened form of infin. act. is assumed, e.g. *dice-* or *dici-*, whence *dici-er*. It is, however, contrary to the phonetic analogy of Latin that *-se* should thus become *-er*: *amare-se*, *dici-se* would naturally become *amares*, *dices*, or *dicis*, as in 2 sing. *amaris*=*amasi-se* (p. 167). And if the final *r* of *-ier*=*re*=*se*, as in *amor*, then no account is given of the preceding *e*.

(b) To escape these difficulties Corssen devises a new theory, viz. that *-r*=*re*=*-se* the reflexive pronoun, and that the rest of the infinitive in *-ier* is a feminine substantive with a suffix *-sia* (after vowels), or *-ia* (after consonants): e.g. from stem *ama-*, *amasia-se*, *ama-sies*, *ama-rier*; from stem *dic-*, *dicia-se*, *dic-ies*, *dic-ier*.

These substantives would be analogous formations to *gloria*, *curia*, etc., and the vowel change from *a* to *e* analogous to that between *materia* and *materies*. The theory is perhaps more ingenious than convincing, the mode of composition which it postulates being difficult if not impossible to parallel; and though it avoids difficulties which beset other explanations, it must be ranked with them as a hypothesis upon which little evidence can be brought to bear in either direction.

Roby (Latin Grammar, §§ 614, 15) gives substantially the same explanation as (a) above. Without committing himself to the phonetic change of *-se* to *-er*, he holds that the ordinary passive suffix *-r* (I presume *after* it had taken that form, and its origin as=*se* had possibly been forgotten) was 'added to the active infinitive in the form of *ēr*,' the final *ē* of infin. act. taking the form of *i* before *-er* on the principle of dissimilation (see p. 59). The final *r* was then dropped, because of its ill sound after another *r*, and *ie* contracted to *ī*. The stages of change on this view are *amare-er*, *amari-er*, *amarie*, *amari*. For the shorter forms in consonant and *i*-verbs (*dici-er*, *capi-er*), he accounts in the following way: if the process above described had been followed in these verbs, then, because the penultimate vowel of infin. act. was short (*dicēre*), the syllable *ēr* would have come twice over (*dicēriēr*); but the instinctive desire for economy of utterance dropped the first *er*, i.e. *-ier* was appended

directly to the final consonant of the stem. In the absence of evidence for the date and exact process of the supposed changes, this view is perhaps as likely to be right as any other.

The period of transition between the two forms (*-ier*, *-i*) can be approximately defined from 220–120 B.C. The ‘Lex Acilia Repetundarum,’ circ. 123 B.C., offers the latest example from inscriptions of the form in *-ier*, which form may therefore be presumed to have passed out of common use after that date. It also offers the first example from inscriptions of the other form in *-i* (*dareī*, § 9): but the introduction of this form must have been considerably earlier, as it is more common even in Plautus and Terence than that in *-ier*. The dates mentioned will probably represent with tolerable accuracy the period of fluctuation, before which *-ier*, and after which *-i*, was the regular use. In the poets of the Later Republic and the Augustan period, Lucretius, Vergil, Horace, etc., the form in *-ier* is an intentional archaism.

Perfect Participle Active (Greek):—

An Indo-European suffix *-vant* appears to have the meaning of ‘possession of’ or ‘supply with’ anything; e.g. Sanskrit *açva-vān* (stem *açva-vant*)=‘supplied with’ or ‘possessed of horses.’ In Greek this suffix appears as *-Fεντ*, which (with loss of digamma) is found in the adjectival termination *-εις*, *-εσσα*=*-εντ-s*, *-εντ-ja*: *ἵχθυό-εις*, *νιφό-εις*, *χαρί-εις*, etc. (stem *ἵχθυό-Fεντ*, *νιφό-Fεντ*, *χαρί-Fεντ*). In Latin it becomes *-vans*, and (on analogy of *o*-stems) *-vonso*, *-vōso*, which (with loss of *v*) appears in the adjectival termination *-ōso*; *fructu-ōso*, *lumin-ōso*, *forma-ōso* (*form-ōso*, an older form *formonso* being actually found in MSS. of Vergil, etc.).

The same suffix was also used to form a perfect participle active, which (as the perfect itself) is expressed in many languages by an auxiliary denoting ‘possession,’ ‘I have done.’ In Greek the final *t* of *-vant* is retained, the *n* being lost, as in the ordinary perf. partic. active *-ός*=*For-s*, neuter *-ός*=*For* (the stem appearing in oblique cases *-ός-os*, *-ός-ι*, *-ός-a*): the feminine *-ία* being=*-vaja* from *-vasja*=*vans-ja*, i.e. the suffix *-vant* + the feminine suffix *-ja* (see p. 100). The effect of the digamma is

Transition
from *-ier* to
-i.

Perfect Pa-
rticiple Ac-
tive, Suffix
-vant.

seen in such forms as *ἴστα-ότες* (Epic), which later Greek contracted into *ἴστωτες* on analogy of other contracted forms, but which was preserved from contraction while a consciousness of the original digamma in *ἴστα-φότες* survived.

Present Participle Active.

Present
Participle
Active -ant,
-nt.

This (as well as the future and aorist participles) is found in Greek and Latin, and in other Indo-European languages, by a shorter suffix *-ant* or *-nt* (with consonant and vowel-stems respectively). Thus in Greek, from verb-stem *εσ-*, *φέρ-*, we have part. *ἔσ-οντ-*, *φέρ-οντ-*; from stem *ἴστα-*, *ἴστα-ντ-*; *ντ-s* in nom. sing. sinking to *ν* or *s* with long vowel preceding. So from *εἰμι* (*ἔσ-μι*), *ἔσ-οντ-s*, *ἔδντ-s*, *ἔ-ων*, later *ων*: from *ἴστημι* (*ἴστα-*), *ἴσῃ-ντ-s*, *ἴσῃ-s*: in 1 aor. act. *λυσά-ντ-s*, *λυσᾶ-s*: and in 1 aor. pass. *λυθῆντ-s*, *λυθεί-s*. The feminine forms are due to addition of *-ja*: thus *ἔσ-οντ-ja*, *ἔδντ-ja*, *ἔουσα*: *ἴσῃ-sa*=*ἴσῃ-ντ-ja*; and in 1 aor. *λυσᾶ-sa*=*λυσᾶντ-ja*, the combination *ντ* sinking to *σ* (as in 3 plur., p. 164) with compensatory raising of the preceding vowel, and the *j* sound disappears, but remains in fem. substantives,—*γερονσία*=*γεροντ-ja*, etc.

In Latin the ordinary participle stem is *ent-* (older *ont-*, *unt-*, in *e-unt-is*, etc.). *Praesens*, *absens* preserve a participle of *sum*, which exactly corresponds to that of *εἰμι* given above, e. g. (*e*)*s-ent-s*=*ἔσ-όντ-s*; the termination *-nts* of nom. sing., which in Greek becomes *-ων* (or in 1 aor. *-ās*), becoming *-ns* by the phonetic laws of Latin. The feminine forms corresponding to those of Greek are not used as participles, but are common as feminine substantives, *sapient-ia*, *abundant-ia*, etc.

Greek Middle and Passive Participle in -μενος :—

Middle
and Passive
Participle
-μενος.

The participial suffix *-μενο-*, by which are regularly formed the present and future, middle and passive, the aorist middle and perfect passive participles, seems to represent an original Indo-European *-mana*, one of the many developments of the element *-ma* in the formation of nominal stems (see above, p. 95). In Sanskrit this appears as *-māna*, forming middle and passive participles from the present and future stems, with a secondary form *āna*; in Zend as *-mna* and *-āna*, also participial; in Latin as *-mino*, *-mno* forming substantives like

ter-minu-s, fe-mina, alu-mnu-s, and with traces of a participial signification in the isolated verb-form of 2 plur. passive, *amāmini*, etc. (see above, p. 167).

Latin Past Participle Passive in -tus, and Supines:—

The suffix *-ta* (above, p. 95), one of the commonest noun-suffixes among Indo-European languages, seems to have become at one period a regular mode of expressing the idea of a perfect passive participle ('Having been' . . .). This function it retains in the Italian languages, e. g. Latin *scripto-*, Umbrian *scriih-to*, Oscan *scrito-*; but here also there are many traces of a less closely defined use of the suffix in the formation of verbal nouns both substantive and adjective¹, as in the Greek verbal adjective termination *-to-s*, and nouns of action like *κρη-της*, *ποιη-της*, etc. Such traces are found in the many verbal substantives in *-tus*, declined sometimes as *o*-stems, more often as *u*-stems, —*gemi-tus, fremi-tus, par-tus*, etc.; and the 'supines' in *-um* and *-u*, which are obviously accusative and ablative cases respectively of such a verbal substantive, often not to be distinguished in form from the substantive itself actually in use. Compare, for example, the substantive *visus* as used by Verg. Aen. ii. 212, 'Diffugimus visu exsangues,' with the supines *visum, visu* of the verb *video*. The perfect part. passive, supines, and such verbal substantives, have therefore one common element of formation, viz. the suffix *ta-* (*to-*, *tu-*); and the stem formed by the addition of this suffix is sometimes spoken of as the 'Supine-stem,' understanding by that term the base or stem common to these various formations from verbal-stems. And in treating here of the formation of the past participle passive in *-tus* it will be convenient in some cases to borrow examples from the head of 'supines' or 'verbal substantives.'

The addition of the element *-to* to the verbal-stem is marked in some cases by certain phonetic changes, which may be shortly noticed here. In the formation from *ē*-stems, the stem-vowel becomes shortened to *ĭ* in Latin, e. g. *monĭ-tus* (*monē-*), *tacĭ-tus* (*tacē-*). With *ā*-stems it generally remains as in *amā-tus*, but

Latin Past
Participle
Passive in
-tus, and
Supines.

Phonetic
Changes of
Vowel-stem
on addition
of *-to*.

¹ A list of Latin verbs, with their perfects, supines, etc., is given in *Roby's 'Latin Grammar,'* i. ch. xxx. pp. 239-264.

Phonetic
changes on
addition of
Past Partic.
Suffix *-tus*
to Vowel-
stems.

is sometimes shortened to *ī*, *domī-tus* (*domā-*), *attonī-tus* (*tonā-re*); this *ī* being absorbed by a preceding *v* in *adjū-tus*=*adjuvī-tus* (*juvā-*), and *lautus*=*lavī-tus* (*lavā-*), cp. *cautus*=*cavī-tus* (*cavā-*), and *fōtus*, *mōtus*, in which the *v* sound has also been absorbed into the preceding vowel. With *ī-* stems the *ī* remains, as in *audi-tus*, *molī-tus*; but is occasionally dropped out, as in *sanc-tus* (*sancī-tus* being also in use), *comper-tus* (but *perī-tus*).

From the cases above-mentioned, in which *ī*, preceding the participial element *-to*, is a degradation of sound from *ā* or *ē*, must be distinguished those in which *ī* is either part of the stem, or a connecting-vowel. In *gem-ī-tus*, *vom-ī-tus*, *gen-ī-tus*, *frem-ī-tus*, and a few similar formations from consonant-stems, it appears to be a connecting-vowel introduced for the sake of euphony (see above, p. 157). Without it the forms from stems *gem-*, *vom-*, *frem-* would, by the ordinary euphonic laws of Latin, either have lost their characteristic *m*, becoming *fren-tus*, *von-tus*, *gen-tus*, or have assumed the ugly forms *fremptus*, *vomptus*, *gemptus*, by the insertion of *p* sound which seems to follow naturally upon the transition from *m* to *t*, *s*, or *l* [cp. *sum-p-tus*, *sum-p-si*, *tem-p-lum* (τέμ-ενος)]. Roby (§ 698) suggests that the forms *alī-tus* (post-Augustan) and *molītus* from *al-ere*, *mol-ere*, may be due to a desire to distinguish these participle forms from the adjectives *altus*, *moltus*; and that *strepī-tus*, *genī-tus* may have originally had stems in *a-* (*strepā-* and *genā-*, cp. *gna-scor*, *gna-tus*). In *pos-ī-tus* (*pōno*=*pos-no*, *pos-ui*) the connecting-vowel is employed, but not universally in the compound forms; e.g. *repos-tus*, *compos-tus* and *compositus*, *sepos-tus* and *sepositus*.

Verbs in *-io*, whose present-stem is formed by addition of *i=ja* to the verbal-stem (above, p. 193), generally affix the supine or past participle element direct to the verbal-stem, e.g. *capī-o*, *cap-tus*. Where *ī* appears, it may be regarded either as the *ī* of present-stem, or more probably as a connecting-vowel; e.g. *fug-ī-tum* (*fugī-o*, *fug-ī*, *fūg-a*), where the insertion of a connecting-vowel preserves the characteristic *g*, which otherwise would have become *c* before *t*, as in *fractus*

(see p. 46). So we have *elici-tum*, but *illec-tum*; and in certain words the connecting-vowel, not used before the past-participle and supine, is inserted before the fut. participle for euphony (*or-tus*, *or-ī-turus*; *mor-ī-turus*; *par-ī-turus*, *par-tus*). Past Participle Suffix -tus.

Verbs in *-uo* (*u*-stems) generally have *ū* preceding *t* of participle or supine, e. g. *acū-tus*, *exū-tus*, *imbū-tus*, etc. The stem-vowel of such verbs being generally *ū*, the *ū* is perhaps due to coalescence of a connecting-vowel with the stem-vowel, e. g. *imbū-ī-tus*, *imbū-tus*. A few verbs retain *ū*, e. g. *rū-tum* (according to Varro *rūtum*), the future participle being *rū-ī-turus*, cp. *ob-rūtus*: and *clū-tus* from *clu-uo* (κλύ-ω), whence *in-clu-tus*.

With consonant-stems the suffix *-t-* appended to the verb-stem is sometimes softened to *s*, usually by the influence of a preceding dental (all dental-stems having *-sus*, *-sum* in past participle and supine¹). The dental either drops out, the preceding vowel being lengthened in compensation (e. g. *divī-sum* = *divīd-tum*, *man-sum* = *mand-tum*), or it is assimilated (*mes-sum* = *met-sum*, *quas-sum* = *quat-sum*). *Lap-sus* from *lab-or* illustrates the same process after a labial: and *fixus* (= *fic-sus* for *fig-tus*) after a guttural. The guttural, however, often drops out, e. g. *par-sum* = *parc-tum*, *spar-sus* = *sparg-tus*. [*Fig-tus* would naturally become *fic-tus* (see p. 47), and this would lead to confusion with *fic-tus*, part. of *figo*. And in this and most other cases of change to *s*, otherwise than after a dental (as above) or after a liquid and some other consonant (*ard-*, *arsum*, etc.), it is noticeable that the perfect active, if any, is formed with *-si*: so that the *s* of participle and supine may be the result of analogy from that of the perf. act.]

Future Participle in -turus (Latin):—

The termination of the stem of fut. partic. active in *-turo* appears to represent an Indo-European *-tara*, a variety of *-tar*, which is largely used in the formation of nouns of agency (*-tar*) or implement (*-tra*). In Sanskrit and Zend the suffix appears as *-tar*, *-tra*. In Greek it appears as *-τερ* in *πα-τήρ*, *πα-τέρ-ος*; *σώτηρ* = *σώτερ-ος*, etc.; or *-τορ* in *ῥήτωρ*, *ῥή-τορ-ος*; *ἱστωρ*, *ἱστορ-ος*. Connector of Future Participle Suffix with Noun-suffixes -tar, et

¹ For examples, see Roby, i. § 707, 8.

etc.; and a feminine *-τρια*=*tar-ja* is found in *ποιήτρια*, etc.; while in other cases the *i* of the feminine suffix *-ja* is thrown back into the previous syllable, e.g. *σώτρεψα*=*σώτερ-ja*, *δότεψα*=*δότερ-ja* (cp. p. 192). Another specially Greek form is a feminine stem in *-τριδ*=*tarid*, formed by suffixing *-ιδ*, e.g. *πατρὶς*, *πα-τριδ-ος*. *-tra* appears as *-τρο* or *-θρο* (neut.), and *-τρα*, *-θρα* (fem.), e.g. *νίπ-τρο-ν*, *ἄρο-τρο-ν*, *ρή-θρα*, *μάκ-τρα* (root *μακ-* of *μάσσω*=*μάκ-ω*), *κοιμή-θρα*, etc. Latin has forms almost identical: *pa-ter*, *ma-ter*, etc.; nouns of agency, as *vic-tor*, *censor*=*cens-tor*, *sponsor*=*spond-tor*, etc.; of implement, as *ara-tru-m*, *claus-tru-m*=*claud-tro-m*, *ros-tru-m*=*rod-tro-m*. The suffix is also further increased by *-ja* to *-trio-*, *-torio-* (*pa-trio-s*, *victoria*); by *-ic* to *-tric-*, a feminine suffix, as in *victric-s*; by *-ino*, as in *doc-t(o)rina*. To the longer form *-tara* corresponds *-turo-* of fut. partic. act., and feminine nouns of action, e.g. *sepul-tura*, *usura*=*ut-tura*.

APPENDIX I.

Specimens of Latin Inscriptions from 250 B.C. to the close of the Republic.

THE following selection of Latin inscriptions is given as a fuller and more connected illustration of those gradual changes in the form of Latin words, to which incidental allusions have been necessary in the preceding pages. For the text of the inscriptions cited I am immediately indebted to selections made from the *Corpus Inscriptionum Latinarum* (ed. Mommsen) and Ritschl's *Priscae Latinitatis Monumenta Epigraphica* by Messrs. Wordsworth (in 'Fragments and Specimens of Early Latin') and Roby ('Latin Grammar,' vol. i. Appendix B); of the general accuracy of whose citations I have satisfied myself by comparison with the authorities whom they have followed. The inscriptions are all in 'uncial' (i. e. capital) letters. The vertical strokes denote the ending of lines on the original inscription: but in the version (in italics) of the Scipionic Epitaphs they mark the 'caesura' of the Saturnian metre.

I. Epitaphs of the Scipios:—

1. On L. Cornelius Scipio Barbatus, consul 298 B.C. (Inscription not later than 240 B.C.)

cornelius . lucius . scipio . barbatus . gnaiuod . patre | prog-
natus . fortis . uir . sapiensque—quoius . forma . uirtutei . pari-
suma | fuit—consol . censor . aidilis . quei . fuit . apud . uos—
taurasia . cisauna | samnio . cepit—subigit . omne . loucanam
. opsidesque . abdoucit. |

Cornelius Lucius | Scipio Barbatus,
Gnaeo patre prognatus | fortis vir sapiensque,

*Cujus forma virtu | ti parissima fuit, .
 Consul, censor, aedilis | qui fuit apud vos
 Taurasiam Cisaunam | Samnium cepit
 Subigit omnem Lucaniam, obsidesque abducit.*

2. On L. Cornelius Scipio, consul 259 B.C. (Inscription perhaps earlier than No. 1.)

honcoino . ploirume . cosentiont . r
 duonoro . optumo . fuise . uiro
 luciom . scipione . filios . barbati
 consol . censor . aidilis . hic . fuet . a
 hec . cepit . corsica . aleriaque . urbe
 dedet . tempestatebus . aide . mereto

*Hunc unum plurimi con | sentiunt romai (i. e. romae)
 bonorum optimum fu | isse virum virorum,
 Lucium Scipionem. | Filius Barbati
 consul, censor, aedilis | hic fuit apud vos.
 Hic cepit Corsicam Aleri | amque urbem pugnando ;
 dedit tempestatibus | aedem merito votam.*

3. On P. Cornelius Scipio, perhaps son of Sc. Africanus Major, augur 180 B.C. (Inscription about 160 B.C.)

quei . apiceinsigne . dial amins . gesistei |
 mors . perfe tua . ut . essent . omnia |
 breuia . hon os . fama . uirtusque |
 gloria . atque . ingenium . quibus . sei |
 in . longa . licui set . tibe utier . uita |
 fa . cile . factei superases . gloriam |
 maiorum qua . re . lubens . te . ingremiu |
 scipio . recip t terra . publi |
 prognatum . publico . corneli —

*Qui apicem insignem dialis | flaminis gessisti,
 mors perfecit tua ut | essent omnia brevia :
 honos fama virtusque | gloria atque ingenium,
 quibus si in longa licuis | set tibi utier (i. e. uti) vita
 facile factis superasses | gloriam maiorum.
 Quare lubens te in gremium, | Scipio, recipit
 Terra, Publi, prognatum | Publico Corneli (i. e. Cornelio).*

4. On L. Cornelius Scipio, (uncertain who is meant). The inscription dates about 150 B.C.

l. cornelius . cn . f. cn . n. scipio . magna . sapientia |
 multasque . uirtutes . aetate . quom . parua |
 posidet . hoc . saxsum . quoei . uita . defecit . non |
 honos . honore . is . hic . situs . quei . nunquam |
 uictus . est . uirtutei . annos . gnatus . xx . is |
 d ei . s . datus . ne . quairatis . honore |
 queiminus . sit . mand u

Lucius Cornelius, Cnaei filius, Cnaei nepos, Scipio
magnam sapientiam mul | tasque virtutes
aetate cum parua | possidet hoc saxum.
quoei (i. e. cui) vita defecit | non honos, honorem.
Is hic situs. Qui nunquam | victus est virtute
annos natus viginti | is Diti est mandatus :
ne quaeratis honorem | quiminus sit mandatus.

II. From the Senatusconsultum de Bacchanalibus, (or Epistola Consulium ad Teuranos,) 186 B.C.; cp. Livy xxxix. 8-18.

censuere | homines . plous . u . oinuorsei . uirei . atque
 . mulieres . sacra . ne . quis quam | fecisse . uelet . neuē . inter .
 ibei . uirei . plūs . duobus . mulieribus . ploustribus | arfuisse
 . uelent . nisei . de . pr . urbani . senatuosque . sententiad . utei .
 suprad | scriptumest . haice . utei . in . couentinoid . exdei-
 catis . ne . minus . trinum | noun dinum . senatuosque .
 sententiam . utei . scientes . esetis . eorum . | sententia . ita
 . fuit . sei . ques . esent . quei . aruorsum . ead . fecissent quam .
 suprad | scriptum . est . eeis . remcaputalem . faciendam . cen-
 suere atque . utei | hoce . in . tabolam . ahenam . incei-
 deretis . ita . senatus . ai quom . cen suit | uteique . eam .
 figier . ioubeatis . ubei . facilumed . gnoscierpotisit . atque
 | utei . ea . bacanalialia . sei . qua . sunt . extrad . quam . sei .
 quid . ibei . sacri . est | ita . utei . suprad . scriptum . est . in .
 diebus . x . quibus . uobeis . tabelai . datai erunt . faciatis . utei
 dismota . sient in . agro . teurano .

Censuere homines plus quinque universi, viri atque mulieres,
sacra ne quisquam fecisse vellet, neve interibi viri plus duobus,

mulieribus plus tribus, adfuisse vellent, nisi de praetoris urbani senatusque sententia, uti supra scriptum est.

Haec uti in contione exdicatis ne minus trinum nundinum ; senatusque sententiam uti scientes essetis. Eorum sententia ita fuit : siqui essent qui aduersum ea fecissent, quam supra scriptum est, eis rem capitalem faciendam censuere.

Atque uti hoc in tabulam ahenam incideretis : ita senatus aequum censuit ;

Utique eam figi jubeatis, ubi facillume nosci possit ;

Atque uti ea Bacchanalia, siqua sunt, extra quam si quid ibi sacri est, ita uti scriptum est, in diebus decem, quibus vobis tabellae datae erunt, faciat uti dimota sint. In agro Teurano.

III. Inscription of the same age as S. C. de Bacch., but less antique in spelling, (the former being of a more formal legal nature). The earliest example of doubled letters.

laimilius . l . f . inpeirator . decreiuit | utei . quei . hasten sium
 . seruei | in . turri . lascutana . habitarent | leiberei . es
 sent . agrum . oppidumqu | quod . ea . tempestate . posedisent
 | item . possidere . habereque | iousit . dum . poplus . senatus
 que | romanus . uellet . act incastreis | ad . xii . k . febr

IV. From an inscription at Polla in Lucania, recording works executed by P. Popillius Laenas, consul 132 B.C.

uiam . feci . ab . regio . ad . capuam . et | in . ea . uia . ponteis
 . omneis . miliarios | tabelarios que . poseiuei . hince . sunt |
 nouceriam . meilia . ♀I . capuam . XXCIII . | muranum . ♀XXIII
 . cosentiam . CXXIII | ualentiam . CXXX . ad . fretum . ad sta-
 tuam . CCXXXI | et . . eidem . praetor . in | sicilia . fugiteiuos .
 italicorum | conquaesiuei . redideique | homines . DCCCCXVII .
 eidemque | primus . feci . ut . de . agro . poplico | aratoribus
 . cederent . paastores | forum . aedisque . poplicas . heic . feci .

[Note in this inscription the fluctuation between ē, ei, ī (homines, ponteis, feci, feci) and one example of doubled vowel (paastores).]

V. Two inscriptions found at Capua and Aeclanum, and assigned by Ritschl (Pr. Lat. Monumenta, LXIII A, LXIII C)

to the years 108 and (about) 90 B.C.; but exhibiting in some forms (e. g. *venerus*, *loidos*, *moiros*) the spelling of a considerably earlier period.

1. heisce . magistreis . venerus . iouiae . muru | aedificandum
. coirauerunt . ped cc↓xx et | loidos . fecerunt . ser. sulpicio .
m . aurelio . cof.

*Hi magistri Veneris Ioviae murum aedificandum curaverunt
pedes CCLXX et ludos fecerunt, Servio Sulpicio Marco Aurelio
consulibus.*

[*cof.* is a stone-cutter's mistake for *cos.*]

2. c . quinctius . c . f . ualg . patron . munic | m . magi . min
. f . surus . a . patlacius . q . f | III uir . d . s . sportas . turreis .
moiros | turreisque . a . equas . qum . moiro | faciundum . coi-
rauerunt.

*C. Quinctius, Caii filius, Valgus patronus municipii, M.
Magius, Minucii filius, Surus, A. Patlacius, Quinti filius, quat-
tuor viri de senatus sententia portas, turres, muros, turresque
aequas cum muro faciundum (error for faciundas) curaverunt.*

VI. From Sulla's Law 'de xx quaestoribus,' B.C. 80; cp.
Tac. Ann. xi. 22.

q . urb . quei . aerarium . prouinciam . optinebit . eam | mer-
cedem . deferto . quaestorque . quei . aerarium . prouin ciam |
optinebit . eam . pequniam . ei . scribae . scribeisque . herediue
| eius . soluito . idque . ei . sine . fraude . sua . facere . li . ceto
. quod | sine . malo . pequlatu . fiat . olleis que . hominibus .
eam | pequniam . capere . liceto.

VII. From Lex Julia Municipalis, B.C. 45.

quae . uiae . in . urbem . rom . propiusue . . r . p . q . ubei .
con tinente . habitabitur . sunt . erunt . quouis . ante . aedificium
. earum . quae | uiae . erunt . is . eam . uiam . arbitrato . eius .
aed . quoi . ea . pars . urbis . h . l . ob . uenerit . tueatur . isque .
aed . curato . uti . quorum | ante . aedificium . erit . quamque
. uiam . h . l . quemque . tueri . oportebit . ei . omnes . eamuiam

. arbitratu . eius . tueantur . neue eo | loco . ao . consistat . quomi
nus . conmode . populus . ea . uia . utatur.

[*p . q . is a mistake for p . m . = passus mille.*]

VIII. A monumental inscription upon a young actress, dated by Mommsen (C. I. R. 1009) and Ritschl (*Pr. Lat. Mon. LXXXI.*) at the end of the Republic, and exhibiting in the main the orthography familiar to us in classical Latin: most of the peculiarities being due to carelessness of the mason who cut the inscription (e.g. *propiravit*, line 7; *denecavit* for *denegavit*, l. 9; *deposierunt* for *deposuerunt*, and *infistae* for *infestae*, l. 14). The 'apex' (see above, p. 45) is found on two words only, *lėti* (l. 1) and *hóra* (l. 7).

Eucharis . liciniae . l

docta . erodita . omnes . artes . uirgo . uixit . an . xiiii

heus . oculo . errante . quei . aspicias . létı . domus
morare . gressum . et . titulum . nostrum . perlege
amor . parenteis . quem . dedit . natae . suae
ubei . se . reliquiae . conlocarent . corporis
heic . uiridis . aetas . cum . floreret . artibus
crescente . etaeuo . gloriam . conscenderet
propirauit . hóra . tristis . fatalis . mea
et . denecauit . ultra . uitae . spiritum
docta . erodita . paene . musarum . manu
quae . modo . nobilium . ludos . decorauichoro
et . graeca . inscaena . prima . populo . apparui
en . hoc . in . tumulo . cineremnostri . corporis
infistae . parcae . deposierunt . carmine
studium . patronae . cura . amor . laudes . decus
silent . ambusto . corpore . et . leto . tacent
reliqui . fletum . nata . genitori . meo
et . antecessi . genita . post . leti . diem
bis . hic . septeni . mecum . natales . dies
tenebris . tenentur . ditis aeterna domu
rogo . ut . discedens . terram . mihi . dicas *leuem*.

APPENDIX II.

A.—Adverbial Terminations in Latin.

THE following list of the various terminations of Adverbs, Prepositions, or Conjunctions in Latin will supply more or less obvious illustrations of the statement on p. 88, that they are all in their origin case-forms of Nouns. A few examples only of each are given; and for a more complete list the student is referred to Roby's Latin Grammar, i. §§ 508–547, from which this arrangement is borrowed.

I. Vowel-endings:—

-ā : *eā, hāc, circā, juxtā, suprā, contrā* [ablative sing. feminine from *a-* or *o-* stems] : *anteā, propterea, postillā*, etc., seem to be accus. plur. neut. (see p. 147).

-ā : *itā, quā* [apparently accus. plur. neuter].

-ae : *prae* [probably locative -*ai*, or dat. with locative force].

-ō : a common adverbial termination, originally ablative singular of -*o* stems=older -*ōd*; cp. Greek *οὔτω, οὔτως*.

(1) From substantives : *ergo* (*ἐργον*), *exemplo* (= *extempulo*, diminutive of *ex tempore*), *illico* (*in loco*), *modo*, etc.

(2) From adjectives and participles : *cito, denuo* (*de novo*), *omnino, subito, vero*; *improviso, necopinato*, etc.

(3) Numeral adverbs; *primo, secundo*, etc.; so *immo* (= *imo*, 'at the lowest or least'), *postremo*, etc. [ablatives with local signification,—in such a place.]

(4) Pronominal, chiefly of direction to a place (perhaps originally adverbs of manner or circumstance): *eo, quo-ad* ('whither to'), *illoc* (Plautus, later *illuc*), *intro, porro* (*πρόπως*).

Adverbial
terminations
in Latin.

Under this head come the adverbs of direction ending in *-orsus, -orsum*, i.e. *-o-vorsus, -o-vorsum*, 'turned towards'; a combination analogous to *quo-ad, ad-eo*.

(5) Adverbs formed by suffix *-do*: *quando* (*quam-do*), *endo*, or *indu*, an old form of *in*, seen in the forms *endoperator*, *induperator* (Ennius), and *indigeo* (*indu, egeo*).

-u: *diu, noctu, du-dum* (= *diu-dum* ?). Ablatives.

-ē: the common adverbial termination from positive and superlative adjectives with *-o* stems [apparently ablative sing.; see above, p. 117]; e.g. *valde, vere, fere, ferme*. *Apprime* (prae-Ciceronian) is probably = *ad prima*, an adverbial expression analogous to *imprimis*; the *-ē* being due to the analogy of other adverbs.

-ē: generally speaking a shortened form of the preceding (*-ē*) termination, like abl. sing. in *-ē* of 3rd decl. (p. 118).

(1) From *-o* stems (as *-ē* above): *benē* (*bono-*), *malē*, *superne*, etc.; and perhaps *mactē* in the phrase *macte virtute esto*.

(2) From other stems: *abundē, facilē, impune, magē, spontē* (abl. of *spons*).

-pē: a form of *quē*, e.g. *nem-pe* (= *nam-pe*, cp. *namque*).

-vē: perhaps = *vel*, thus *neve* = 'or not.'

-cē: *ecce* = *en-ce, sic*, etc.; and appended to locative adverbs, *hic, illuc*, etc. (see p. 149).

-quē: a case-form of *qui*, appended to pronouns and pronominal adverbs (perhaps, as Roby suggests, a kind of reduplication): *quis-que, quando-que*, etc.; so with prepositions and conjunctions, *absque, atque* (*ac-que*), *namque*, etc.

-ptē: *suapte*, etc.; possibly = *pōte*, as in *ut-pote*.

-dē: *in-de, un-dē*, etc. Perhaps = *dē* (preposition) shortened by loss of accent.

-nē: *sinē, pone* (= *pos-nē*). Probably the same as the interrogative particle *nē*, which again may = *nē*, 'verily' (wrongly written *nae* from analogy of Greek *nai, νῆ*).

-ī (occasionally shortened to *ī*):—

(1) Ablative cases of manner: *quī, quīn* (*qui-ne*), *sī* (abl. of a pronoun = 'in which case'), *sic* (= *si-ce*, 'in this way'), *utī*

(probably=*quo-ti*, 'in which way,' *ti* being=*si* above), *brevi*, *proclivi*, etc. Adverbial terminations in Latin.

(2) Locative (or Dative) cases : *illi*, *isti* (Plaut., Ter.), more usually *illie*, *istic*; *heri*, *temperi*, etc. : and in the termination *-bi* of pronominal adverbs *ibi*, *ubi*, etc.

II. Consonant-endings (Labial and Dental) :—

-b : *ab*, *ob*, *sub*=Greek *ἀπό*, *ἐν*, Sanskrit *apa*, *upa*, from pronominal stem *-pa* (p. 92, note). The form *inā* suggests a locative case.

-am : probably accusative cases, e.g. *quam*, *obviam*, etc., and thence by analogy to such forms as *coram* (*cum*, *os*), *perperam* (*per-per-am*), 'thoroughly,' in termination *fariam* of *bifariam*, etc. ; and in suffix *-dam* appended to pronouns and pronominal adverbs—*quidam*, *quondam*, etc. (see p. 148).

-om (*-um*). Accusative cases : *donicum* (Plaut.), later *donec*, *dum*, *quom* (*cum*) ; *actutum*, *circum* (stem *circo-*), *clanculum* (*clam*, with diminutive suffix), *extremum*, *parum*, etc. ; *russum*, *adversum*, etc.

-em : accusative cases : *propediem* ; *-tem* in *autem*, etc. (from pronominal stem *ta-*, see p. 148) ; *-dem* in *quidem*, etc. (cp. *-dam* above).

-im : (1) in pronominal adverbs, with the meaning of 'at' or 'from' a place ; and so apparently a locative termination (see above, p. 119), e.g. *illim*, *hinc* (*him-ce*), *enim* (= *in-im*, *im* being locat. of *is*).

(2) In termination *-tim* (*-sim*) of adverbs from or similar to past participles : *raptim*, *conjunctim*, *mixtim*, *strictim*, etc. ; *sta-tim* (*sta-re*= 'as you stand'), *confestim* (perhaps from *conferire*), etc. ; *partim*, *ubertim*, *vicissim*, etc. These may also be locative cases, with the meaning of 'circumstance under which,' but such a form as *partim* is suggestive of the accusative case, which (as we have seen, p. 108) is thus formed with certain nouns of the consonant or *i*-declension. From verbs or nouns with *a-*, *u-*, or *i-* stems we have adverbs in *-a-tim* *-u-tim*, *-i-tim* : e.g. *certatim*, *nominatim*, *minutim* ; *gregatim*, *turmatim*, *generatim*, *tributim*, *viritim*, etc.

-d in *ad sed*, *hauđ*, *apud* is perhaps the old ablative suffix

(p. 117); and *quod* in *quodsi*, *quod utinam*, etc., is by some called an ablative. But *quod*=‘because,’ is most naturally accus. of respect (cp. Greek *ὅτι* and the use of *ὅ*=‘whereas’); and the same explanation must hold in the other phrases with which it is compounded.

-t in *ast*, *et*, *at*, may be only a phonetic variety of *-d* (*haut* and *set* are given as varieties of *hand*, *sed*); *ut* seems to be short for *uti* (above, p. 229). It is true that Greek *ὤτ*=*ὥτ*, the ablative of *ὅτ* (see p. 116) rather points to the *t* as final; but then *uti* would be a different word: and as this is improbable, it seems better to withdraw the suggestion implied on p. 88 that *ὤτ* and *ut* are identical.

-n: *an*=Greek *ἀν*, which by some is connected with *ἀνά*; *en*, *in* (*endo*); *quin*=*qui ne*.

-l: *procul*, *simul* (older *semol*=*simile*), accusative neuter: *vel*, perhaps imperative of *volo*.

-er: the suffix of the comparative degree (p. 125) in *sup-er* (comparative of *sub*=‘up’) and its compounds.

-per: same word as *per* (preposition), connected with *παρά*, *περ-ᾤ*, *pierce*, etc., always of time; *nuper* (*novumper*), *semper*, etc.

-ter: a common adverbial suffix from nouns of *o-* and *i-* stems, by some identified with *-tus* and Greek *-θεν*, and regarded as an extension of the ablative suffix *-d* or *-t*, by others connected with the comparative suffix seen in Greek *-τερο-*, Latin *de-ter-ior*, etc. (see p. 125).

-tus: appears to=Greek *-θεν*, as *-mus* of 1st pers. plur.=Greek *-μεν* (see p. 160) and Sanskrit *-tas* of adverbs.

-as: *alias*, *foras*, etc., accusative plural.

-us: *secus*, *tenus*, etc.; perhaps neuter accusatives.

-is: (1)=*ios* (*iūs*), neut. acc. of the comparative suffix (p. 125): *magis*=*magios*, *nimis*=*nimios*. Perhaps this is the origin of *is* in *paullisper*, *tant-is-per*, etc. (2) Ablative plur. in *foris*, *gratis* (*gratiis*), etc.

-iens or *-iēs* (p. 125) the suffix for numeral adverbs.

Table of Cases used Adverbially in Latin.

Cases used.	Examples of Adverbs formed.
1. Accusative—	
Sing. -m	quom (cum), circum, quam, obviam, prope- diem.
„ -d, -s	quod, magis (-ios), secus.
Plur. -ās	alias, foras, etc.
„ -ā	quia, ita. Also neut. sing. and plur. of all adjectives.
2. Ablative—	
Sing. -ō (-ō), -ā, -ū	ergo, subito, primo, illoc, modō, citō, eā, juxta, interea, diu, noctu.
„ -ē (-ē), -ī (-ī)	facillimē, benē, quī, brevī, uti.
„ -d, -t, -tus, -ter	facillimēd, haud, apud, ast, et (?), caeli-tus, firmi-ter.
Plur. -is	gratis.
3. Locative—	
-ai, -ae, -ī	prae, illi-c, isti-c, heri.
-bi	ubi, ibi.
-im	illim, istim, illin-c.

B.—Table of Greek Case-forms used Adverbially.

(Those which only exist as adverbs are called specially 'Adverbial Cases,' or, *πτώσεις ἰδίας* as distinguished from *πτώσεις κοινά*.)

Cases employed.	Adverbs formed.		
	Substantival.	Adjectival.	Pronominal.
1. Accusative	ὅλην, χάριν, etc.	Compar. neut. sing. Superlat. neut. plur. μακρὰν (sc. ὁδόν)	
2. Genitive (Local)			οὔ, ὅπου, etc.
3. Ablative—			
(1) Modal -ως		-ως (= -ωτ, Lat. -ōd)	ὡς, ὅπως
-ω		-ω (Lat. -ō) in κάτω, κατωτέρω, etc.	ὧ-δε

Cases employed.	Adverbs formed.		
	Substantival.	Adjectival.	Pronominal.
(2) Local -θεν	οἴκο-θεν οὐρανó-θεν (<i>caeli-tus</i>)		ὅθεν, etc.
4. Locative—			
(1) -οι, -αι	οἴκοι, χαμαὶ		οἶ, ποῖ, etc.
(2) -θι	οἴκο-θι	γ-εό-θι	ῶθι, πόθι
5. Dative (Modal) -ῇ			ῇ, ῇπερ, etc.
6. Instrumental—			
(1) -ῇ	κομδῇ	κοινῇ, πεζῇ, etc.	
(or? Dative)	σχολῇ, σιωπῇ	πάντῃ (Dor. παντᾶ)	
(2) -α	σῖγα	τάχα, ἄμα, etc.	ἴνα
(or? Acc. plur.)			

N.B.—The adverbial forms in -ῇ, -α, classed here as Instrumental cases, may possibly be Dative Sing. and Accus. Plur. respectively. But the absence of 'scriptum' in one case, and the occurrence of parallel forms in -ᾶ in the other, seem point (cp. p. 123) to the -ᾶ of Indo-European instrumental case as a common origin. The pronominal adverbs ῇ, ῇπερ, etc. appear to be dative cases with locative meaning arising from an ellipse of ὁδῶ, as in the Latin expressions *rectā* (*via*), *quā*, *sē* (*ratione*).

The adverbial suffixes -θα (local), -κα, -τε (temporal), and -σε (local, of direction towards) can hardly be assigned in their present form to any case-termination, but may be assumed to have had a similar origin to others which have been so assigned.

C.—Adverbs in Sanskrit.

Simple adverbs:—

1. From cases of nouns and obsolete words.

(1) From nom. or acc. neuter of any adjective, and of certain pronouns and obsolete words.

(2) From instrum. case (rarely dative) of nouns, pronouns, and obsolete words.

(3) From ablat. case of nouns, pronouns, and obsolete words.

(4) From locat. case of nouns and obsolete words.

2. Adverbial affixes :—e.g. *-tas* (cp. *-θεν*, Lat. *-tus*) with sense of 'with,' 'from;' *-tra* forming adverbs of *place*; *-dā* (Lat. *-de*) forming adverbs of *time*; *-api* (also preposition) forming indefinite adverbs of *time* and *place* with interrogative adverbs (cp. Greek *πο-δ-αν-ός*).

3. Adverbial prefixes :—e.g. *a-*, 'privative' (cp. Gk. *a-*, Lat. *in-*, Engl. *in-*, *un-*); *dus-*, *dur-* (Gk. *δυσ-*) implying 'badly,' 'with difficulty;' *su-*, 'well,' 'easily' (Gk. *εὖ*).

D.—Comparative Table of Prepositions in Sanskrit, Greek, and Latin.

Sanskrit.	Greek.	Latin.
ás, 'to,' 'near to'	<i>ἀμφί</i> , Ep. adv. <i>ἀμφὶς</i>	ad (<i>amb-</i> in compounds) Germ. <i>um-</i>
	<i>δνδ</i> (adv. <i>δνω</i>)	(<i>an-</i> in <i>an-helare</i> , p. 149)
apa	<i>ἀντὶ</i>	ante
(<i>dá</i> , adverbial affix)	<i>ἀπὸ</i>	ab, ab-s, ob
	<i>διὰ</i>	de
	<i>ἐκ</i> (= <i>ἐν-s</i> , p. 149), <i>ἐκ</i>	in
	<i>ἐν</i> , Ep. <i>ἐνὶ</i>	in
	<i>ἐκ</i> , <i>ἐξ</i> (<i>ἐκ-s</i>)	ex, ē
api	<i>ἐπὶ</i>	
antar	<i>κατὰ</i> (adv. <i>κάτω</i>)	inter, intra
	<i>μετὰ</i>	Germ. <i>mit</i>
pará, 'back,' 'backwards'	<i>παρὰ</i>	
pari	<i>περὶ</i> (Ep. adv. <i>περί</i>)	per (<i>per-</i> in <i>per-magnus</i>)
pra	<i>πρὸ</i>	pro, prae (<i>pra-i</i>)
prati	<i>πρὸς</i> , Ep. <i>πρὸς</i>	
sam	<i>σὺν</i> , <i>ἐν</i> (<i>κσὺν</i> , p. 47)	cum
	<i>ὑπὲρ</i>	super, supra
upa	<i>ὑπὸ</i> , Ep. <i>ὑπαὶ</i>	sub

Sanskrit.	Greek.	Latin.
abhi, 'to,' towards' adhi, 'above' anu, 'after' ati, 'across' ava, 'down,' 'off' ud (ut), 'up,' 'upwards' ni, 'in,' 'on,' 'down' nis, nir, 'out' vi, 'apart' N.B.—But few of these are used as prepositions with case of nouns; they are more com- monly prefixes to verbs or verbal derivatives.	'Spurious Preposi- tions.' <i>ἀνευ</i> <i>ἄχρι, μέχρι</i> <i>μεταφύ</i> <i>ἐνεκα</i> <i>πλήν</i>	Other Prepositions of ad- verbial form, many of them as adverbs. apud circum, circa, circiter cis, citra clam, coram contra, erga, extra, infra juxta, penes pone (posne), post praeter, prope, propter secundum trans, tra- ultra (cp. ultro) versus, versum

N.B.—The Sanskrit forms in C and D are taken from Monier Williams'
 'Sanskrit Grammar.'

APPENDIX III.

Derivative Verbs in Greek and Latin, formed by addition of the suffix *-ja*. (See above, pp. 193, 194.)

1. $\begin{matrix} -\hat{a}n : -\hat{a} = -\acute{o}\omega = -\acute{a}\omega \\ -\hat{a}re : -\hat{o} = -ao \end{matrix} \left. \vphantom{\begin{matrix} -\hat{a}n \\ -\hat{a}re \end{matrix}} \right\} = \acute{a}j\omega = aya-mi ;$

e. g. Sanskrit *damáyāmi*, Greek *δαμάω*, Latin *domo* (*domao*),
Gothic *tamja*, German *zähme*.

Many derivatives in *-ān*, *-āre* are connected with fem. substantive stems in *-ā*; e. g. *κομάω*, *κομῶ*, Lat. *como*, with *κόμη*, *comā*, *κομά-jō*, *comā-jo*. Others with *-ō* stems (originally *-a*); e. g. *ἀντιᾶν* (*antio-s*), *armāre* (*armo-*) *fūrmare* (*fūmo-*).

2. $\begin{matrix} -\acute{e}i\upsilon\upsilon : -\acute{e}\omega = -\acute{e}\omega \\ -\acute{e}re : -eo \end{matrix} \left. \vphantom{\begin{matrix} -\acute{e}i\upsilon\upsilon \\ -\acute{e}re \end{matrix}} \right\} = \acute{e}j\omega = ayāmi ;$

e. g. *ἀρκέω*, Lat. *arceo* (*arkājāmi*).

3. $\begin{matrix} -o\hat{u}n, -\acute{o}\omega = \acute{o}j\omega = ayāmi. \end{matrix}$

4. $\begin{matrix} -\acute{i}ei\upsilon\upsilon, -\acute{i}\omega \text{ (or } \acute{i}\zeta\omega) \\ -\acute{i}re, -io \end{matrix} \left. \vphantom{\begin{matrix} -\acute{i}ei\upsilon\upsilon \\ -\acute{i}re \end{matrix}} \right\} = i-j\omega.$

5. $\begin{matrix} -\acute{u}ei\upsilon\upsilon, -\acute{u}\omega \\ -uere, -uo \end{matrix} \left. \vphantom{\begin{matrix} -\acute{u}ei\upsilon\upsilon \\ -uere \end{matrix}} \right\} = \acute{u}j\omega = ujōmi.$

So in Sanskrit *gātu-yāmi* (*gātū*), Greek *γῆρύω* (= *garujomi*), stem *γηρυ-*.

6. $\begin{matrix} -\acute{a}\zeta ei\upsilon\upsilon \\ -\acute{e}\zeta ei\upsilon\upsilon \\ -\acute{o}\zeta ei\upsilon\upsilon \\ -\acute{i}\zeta ei\upsilon\upsilon \end{matrix} \left. \vphantom{\begin{matrix} -\acute{a}\zeta ei\upsilon\upsilon \\ -\acute{e}\zeta ei\upsilon\upsilon \end{matrix}} \right\} \begin{matrix} \text{In these the } \zeta \text{ arises from the effect of the } j \text{ (} y \text{)} \\ \text{sound upon a preceding consonant (see p. 72), gut-} \\ \text{tural or dental; e. g. } \acute{\alpha}\rho\acute{\alpha}\zeta ei\upsilon\upsilon = \acute{\alpha}\rho\acute{\alpha}\gamma-j ei\upsilon\upsilon \text{ (} \acute{\alpha}\rho\pi\alpha\gamma-\acute{\eta} \text{),} \\ \theta\alpha\upsilon\mu\acute{\alpha}\zeta ei\upsilon\upsilon = \theta\alpha\upsilon\mu\acute{\alpha}\delta-j ei\upsilon\upsilon \text{ (} \theta\alpha\upsilon\mu\alpha\tau-\text{), } \pi\acute{i}\zeta ei\upsilon\upsilon = \pi\acute{i}\gamma-j ei\upsilon\upsilon \\ \text{(} \pi\epsilon\pi\acute{\iota}\epsilon\gamma-\mu\alpha\iota, \acute{\epsilon}\pi\acute{\iota}\epsilon\chi-\theta\eta\nu \text{), } \omicron\acute{\iota}\mu\acute{o}\zeta ei\upsilon\upsilon = \omicron\acute{\iota}\mu\acute{o}\gamma-j ei\upsilon\upsilon \text{ (} \omicron\acute{\iota}\mu\omega\gamma-\acute{\eta} \text{),} \\ \acute{\epsilon}\lambda\pi\acute{\iota}\zeta ei\upsilon\upsilon = \acute{\epsilon}\lambda\pi\acute{\iota}\delta-j ei\upsilon\upsilon, \chi\alpha\rho\acute{\iota}\zeta ei\upsilon\upsilon\theta\alpha\iota \text{ (} \chi\acute{\alpha}\rho\iota\tau-\omicron\varsigma \text{), } \delta\lambda\omicron\lambda\acute{\iota}\zeta ei\upsilon\upsilon \\ \text{(} \delta\lambda\omicron\lambda\upsilon\gamma-\acute{\eta} \text{).} \end{matrix}$

7. -σσειν: σσ=κ*j*, γ*j*, χ*j*, τ*j*, θ*j*: e.g. θωρήσσειν (stem θωρηκ-), ἀλάσσειν (ἀλλαγ-ή), ὀρύσσειν (ὀρυχ-ή), κορύσσειν (κορυθ-), ἐρέσσειν (ἐρέτ-ης, ἐρετ-μός). See pp. 70, 71.
8. -αίρειν=άρ-*j*ειν } The *j* (*y*) sound being thrown back into
 -είρειν=έρ-*j*ειν } the stem syllable and becoming the vowel
 -ῡρειν=ύρ-*j*ειν } sound of *i* (cp. μέλαινα=μέλαν-*ja*, p. 95).
9. -άλλειν } Probably from λ*j*: but as no noun-stems end in
 -έλλειν } λ (ἀλ-*s* excepted), these are derivatives from stems
 -όλλειν } in -λο, the stem-vowel *o* being lost.
 -ύλλειν }
10. -αίνειν }
 -είνειν } *j* (*y*) sound thrown back as vowel into the stem
 -ίνειν } syllable, as -αίρειν, etc., above.
 -ύνειν }

[A large number of examples under each of the above heads may be found in Leo Meyer's *Vergleichende Grammatik*, vol. ii. pp. 1-78.]

GENERAL INDEX.

A

- Ablative, inflections of, in Latin, 117.
- Accent, effect of, upon decay of vowel sounds in Latin, 56.
- Accusative, inflections of, in Greek, Latin, and Sanskrit, 108 sqq.
- Adverbs originally case forms, 88.
- list of terminations of (Appendix II), 228-231.
- Agglutinative stage of language, 4.
- Alliteration, illustrative of the tendency to reduplication, 49.
- Alphabet, relationship of Greek to Phoenician, 39.
- Phoenician, Greek, and Roman, comparative table of, 40.
- Greek, changes and modifications in, 42.
- Roman, changes and modifications in, 44.
- Analogy, influence of, upon the forms of language: seen in distinctions of gender, 100; *-es* nom. plur. of consonant-stems, 106; declension of *sus*, *grus*, and gen. sing. *-is* of consonant-stems, and *-i* of *u*-stems, 113; dative dual in Greek, 123; gen. sing. *isti*, 145; *-σθα* of 2 sing., according to Bopp, 162; *amaminor*, 167; conjunctive of verbs in *-μ*, 172.
- Analytic languages, difference of, from synthetic, 151.
- Aorist, 'simple' or 'strong,' 183; reduplicated, 184.
- traces of in Latin, 185.
- 'weak' or compound, relation of, to strong Aorist, 196.
- passive in Greek, 206.

- Aryan, use and meaning of the term, 9, 10.
- Aspirate sounds, and modifications of (spirants), 32, 33.
- changes of, in Latin, 65.
- Aspiration of unaspirated letters, 77.
- Assimilation of vowels, 57.
- of consonants, 69-72.
- Augment, in Greek and Sanskrit, theories of its origin, 155.
- Auxiliary verbs, traces of, in Latin, 24.
- (prosthetic) vowels and consonants, 78, 79.

C

- Cases, original number of, 98.
- Chinese language, the, 4, 7.
- Chordae vocales, their part in the formation of sound, 28.
- Classification of languages, morphological, 4 sqq.
- genealogical, 7 sqq.
- of nouns, 101.
- of pronouns, 136.
- of verbs, 158.
- Claudius, the Emperor, his attempt to introduce new letters, 44.
- Comparative philology, questions treated by, 1.
- Comparison of adjectives, 125; comparative and superlative suffixes, *ib.*
- 'Conjugations' of Greek verbs, 159; of Sanskrit, 186.
- Conjunctive, suffix of, 172.
- Connecting vowel, 157, 218.
- Consonants, meaning of the term, 29.
- classification of, 30-33.

Consonants, changes of, 59; general tendencies, *ib.*; substitution, 61; loss, 66; assimilation, 69; dissimilation, 74.
— insertion of auxiliary, 75, 79.

D

Dative case, inflections of the, 120-123.
Declensions of nouns, 101; division of, into vowel- and consonant-declension, *ib.*
Definite article, development of, in Romance languages, 25.
Dental sounds, 32.
'Dentalism,' 48.
Derivative suffixes used in formation of noun-stems, 95.
Derivative verbs, formation of, by suffix *ja-*, 193.
'Digamma Aeolicum,' the, 41, 64.
Diminutives in *-ellus*, *-ollus*, *-illus*, *-ullus*, 55.
Diphthongs, formation of, 35.
— weakening of, to simple sounds in Latin, 53.
Double consonants, when first written in Latin, 44.
Dynamic change, 48 sqq.

E

Etymology, general principles to be observed in, 46, 47.
'Explosive' or 'momentary' sounds, 30.

F

Final sounds, loss of, etc., in Greek and Latin, 67, 68.
'Fricative' or 'protracted' sounds, 31.
Future Active (Greek) in *-σσω*, 199; in *-ῶ* (Attic), 201; Latin in *-bo*, *ib.*; in *-so*, *-sim*, *-sere*, 202.
Future Passive (Greek), 207.
'Futurum exactum' in Greek and Latin, 202.

G

Gender, expression of, in Indo-European languages, 100-102.
Genitive Case, inflections of, 111-115.
Grimm's Law, formulae of, 81, 85.

Grimm's Law, original process of changes expressed by, 82.
— illustrations of, 82, 86.
Guttural sounds, 31.

I

Imperfect Tense, forms of, in Greek, 196; Latin (*-bam*), 205.
— Subjunctive (*-rem*), 207; of *εἶμι* and *sum*, compared, 196.
Inchoative verbs, 194.
Indistinct articulation, changes due to, 75-80.
Indo-European family of languages, meaning of the term, 9; subdivisions of, 10, 11; comparative antiquity of, 12, 13; table of divergence of, 15.
Infinitive, not a mood but a verbal noun, 209.
— forms of in Greek, 210-212; in Latin, 212-215.
Inflectional (or terminational) stage of language, 5.
Inflections of nouns, meaning of the term illustrated, 92.
— of verbs, variety of, 150.
— effects of phonetic change upon, 21-25.
Inscriptions, specimens of Latin, 250-45 B.C., 221 sqq.
Instrumental Case, inflections of, 123, 124.
Intensification of vowel-sound, 50, 51.
Iranian subdivision of Indo-European family of language, 10, 12.
Isolating stage; see 'Radical.'

K

Keltic group of languages, 11, 12.
Kelts, their migrations, 13, 14.
Koppa, the letter, in Phoenician, Greek, and Roman alphabets, 40, 43.

L

Labial sounds, 32.
Labialism, 47.
'Lautverschiebung' of Grimm's Law, 82.
Liquid sounds, 32.
Locative Case, inflections of, 118, 119.
Long vowel sound, attempts to express in Roman character, 45.

M

- '*Mediae*,' meaning of term and various names for, 31.
- Medial sounds, loss of, in Latin, 67.
- Middle Voice, a prior development to Passive, 165.
- Middle or Passive (*Medio-Passive*) inflections, 166-171.
- Moods, number of possible, and meaning of term, 153.
- Mood signs, position and function, 151, 153.
- forms of (*Conjunctive* and *Optative*), 172.
- Mutes, meaning of term, and other names for, 30.

N

- Nasal sounds, formation of, explained and illustrated, 32.
- influence of, upon preceding sounds, 73.
- insertion or addition of (*Nasalisation*), 51; employed in formation of present-stem, 190.
- National peculiarities of utterance, 80.
- Nominative Case, inflection of, 103-107.

O

- Optative, suffix of, in Greek, 173; forms of, traceable in Latin, 174; 'Aeolic' in *-œia*, 199.
- Orthography, fluctuations of, in Latin, 78.

P

- Palatal sounds, 31.
- Paradigms of noun-inflection, 127-133.
- of pronominal inflection, 139-142.
- Participles, Perfect Active (Greek), 215; Present and Aorist, 216; Middle and Passive in *-μενος*, *sb.*; Passive in *-tus*, 217; Fut. Active in *-urus*, 219.
- Passive Voice, developed from Middle, 165.
- Perfect Active (Greek), strong and weak forms of, 178.
- Middle and Passive, 178.
- Perfect-stem, formation of, in Greek, 175 sqq.; in Latin, 179 sqq.

- Person-endings of Greek and Latin verb, 153, 160 sqq.
- Phonetic change, influence of, upon grammatical structure, 21-25.
- general principles of, 27.
- limited sense of, as involuntary change, 48, 52.
- Plautine prosody, illustrative of decay of vowel-sound, 56.
- Pluperfect Indicative (Greek and Latin), 204; Subjunctive (Latin), 208.
- Present-stem, its relation to the pure verbal-stem, 185.
- different formations of, classified, 187.
- Pronouns, classification of, 134; inflection of, 135-149.
- 'Prosthetic' (auxiliary) vowel, 78.

R

- Radical (or isolating) stage of language, 4.
- Reduplication, origin and general use of, 48.
- employment of in 'Greek and Latin Perfect, 175, 179; Present-stem, 188.
- 'Attic' in Greek, 176.
- Relationship between languages, evidences of, 17.
- illustrations of, for Indo-European family, 18.
- illustrations of, for Romanic languages, 22, 23.
- Romanic or 'Romance' languages, their descent from Latin, 19.
- Roots, definition of, 91.
- list of pronominal, 91 note.

S

- Sanskrit, relationship of, to Greek and Latin, 16.
- alphabet and value of to philologists, 36.
- Scipios, epitaphs of the, 221-223.
- Sclavonic group of languages, 11, 12.
- Semivowels (fricative consonants), as distinguished from mutes, 30.
- in limited sense, consonantal sound of *i*, *u*, 34.
- Senatusconsultum de Bacchanalibus, fragment of, 223.
- Sounds, relative strength and physical conditions of, 28, 29.

Sounds, relation of, to letters of the alphabet, 35.

Spirants (*s*, *z*, *f*, *v*), their connection with *spiritus asper* and *lenis*, 33.

— changes of, 62, 65.

'*Spiritus*' '*asper*,' and '*lenis*,' 32.

Stems, how distinguished from roots and inflected words, 92.

Suffixes, different kinds of, 94.

T

Tense-stems, 152; enumeration of, 154.

Tenues, meaning of term, and various names for, 31.

Terminational stage of language; see '*Inflectional*.'

Teutonic group of languages, 11, 12.

Turanian family of languages, 8.

V

Verb, how distinguished from noun, 150.

Verb, forms of, more complex than those of nouns, 151.

— inflection, elements of, 153.

Vocative, not a case, 98; forms of, in Greek and Latin, 110.

Voice, distinctions of, in Sanskrit and Greek, 165.

Vowels, meaning of term, 29; enumeration of, 33, 34; changes of, 53; substitution, *ib.*; loss, 57; assimilation, *ib.*; dissimilation, 59.

— auxiliary, prefixed or inserted, 78.

Vowel-scales, 50, 51.

W

Word-formation, processes of, 93.

Words, analysis of, into radical and formative elements, 87.

— division of into noun and verb exhaustive, 88.

INDEX OF SOUNDS AND FORMS EXPLAINED.

e vowel, 34.
eaking up of, into
O, 53.
verbal termination,
1.
(Sanskrit), *equus*,
os, 47.
anged to *ar* before
, 61.
, infin. (Doric), 211.
iv, 183.
118.
en. sing., 114.
19.
ilid, 145.
uai, *salio*, 192.
uus, 217.
adverbial ending,
,
123.
io, 203.
τος, 79.
ω, 192.
, 77, 136.
ufid, (Oscan), 117.
ocative, 110.
ι, 79.
α, 118.
ω, -ω), gen. sing.,
,
o, 204.
en. sing., 111.
(Sanskrit), cp. with
ι, εμλ, 16, 18.
, 78.
, 202.
ω, -ωνω, of deriva-
: verbs, 194, 236.

B and V, confusion be-
tween in Latin, 65.
-bām (Lat. imperfect),
205.
barentem, (Zend), 109.
βασιλῆος, 157.
-bhi, instrumental, 123.
-bhyams, dat. plur., 121.
-bios, -bos, -bus, dat. plur.,
122.
bis = δs, 47.
-bo, fut., 201.
bo-bus, 122.
boverum, gen. plur., 116.
C and G in Latin, 44.
cautus, 218.
-ce (-que), enclitic termi-
nation of pronouns,
149.
chambre, 74.
claustrum, 75.
coerare, *coirare*, 53.
confluxet, 208.
currum, gen. plur., 115.
-d, ablative termination,
117.
-d, neut. sing. of pro-
nouns, 143.
δακρυ, *dacryma*, *lacrima*,
61.
de, preposition, 148.
δη, 123.
dederont, 54.
dedrot, old form as inscr.,
182.

δείκνυμι, *δεικνύμεν*, 177.
Diespiter, 118.
Diove (*Jovi*), 120.
Dius Fidius, 118.
divisum, supine, 219.
domitus (*domāre*), 218.
-dum, suffix, 148.

E, a phonetic variety of
A, 34.
Ε ψιλόν, 31.
H = ē, 42.
-ē, gen. sing. of -e stems,
114.
-ē, abl. sing., 117.
-ē, final of Latin infin.,
213.
-ē, adverbial termination,
117, 229.
-ē (*ai*), dat. sing., old Lat.,
120.
ē, pronoun, 137.
ῆα, imperfect, 196.
-ēbam, imperfect, 205.
edim, subj., 174.
ἐδδαισε (Epic), 76.
ἦελθῃ, 156.
ἐγὼν, *ἐγωνργα*, *ego*, 135.
-ei, 3 sing., 164.
εἰμ, 5.
ἐν, 138.
εἶο, εἶ, εἶο, etc., 137.
eis, nom. sing., 146.
— nom. plur., 147.
-eis, 2 sing., 161.
-eis, -εσσα, *adject.*, 215.
εἰργαζόμεν, *εἰπρον*, etc.,
156.

- εισαν, 3 plur. pluperf., 204.
 εκει, 118.
 εκτονα, εγνωκα, 75.
 ηλυθον, 79.
 εμεος, εμους, εμιν, 135.
 εμμεναι, 211.
 εμοι, etc., 79.
 ενεημα, ενεμμα, 198.
 εν, 149.
 e-nim, nam, 79.
 εον, imperf., 196.
 equester, 75.
 e-quidem, 79.
 eram, 196.
 ero, 199.
 -es, nom. plur., conson. stems, 106.
 -es, nom. plur., -o stems, 107.
 -es, gen. sing., 112.
 εσση, 208.
 εσσα, 198.
 ησαν, 192.
 est (edo), 75.
 εσχεθον, 207.
 εθελω, 76.
 εθαδε, 156.
 euntis, 59.
 εξεσκον, 195.
 εχουα, 199.
 εωρον, 156.
 -ειν, -ειρειν, -ελλειν, of derivative verbs, 236.
- facillimus, 126.
 faxo, 202.
 fidē, gen. sing., 114.
 fixus, 219.
 foedus, foedus, 53.
 fractus, frag-or, 46.
- G, introduction of, into Latin, 44.
 gendre, 80.
 γενικη πτωσις, 111.
 γναινοσ, 117.
 γουνος, 111.
- h, insertion after p, t, c, r, 77.
 harundo, harena, heres, etc., 78.
- heri 119.
 hibus, (dat. plur. of hic), 147.
 hic, heic, 146.
 huic, 121.
- i, the vowel, affinity of, to dental sounds, 58.
 — loss of, 56.
 -i, gen. sing. of -o stems, 113.
 i, suffix of pronoun in Greek, 145.
 -ja, nominal suffix, 95.
 — suffix of pres. stem, 191.
 — suffix to form derivative verbs, 193, 236.
 jam, 148.
 idam, imperf., 205.
 lévai, 211.
 -im, -i, accus. and abl., 108.
 -im, -in, locative, 145, 230.
 ιμεναι, 211.
 imitor, imago, 189.
 in, endo, indu, 149.
 -ios, -ior, -ius (-ians), 124.
 -ior, quantity of, 125.
 ιπποτα, 103.
 -issimus, -istos, superl., 126.
 is, declension of, 146.
 iste, declension of, 142.
 -isti, -is-tis, -is-se, 182.
 ίτα, 148.
 ιξον, 198.
 ιζω, 188.
 -ων, comparative, 125.
- K, the character, disappearance of, from Roman alphabet, 42.
 καλαυρωψ, 157.
- l, its affinity to u, 57.
 λεκτος, λέγω, 47, 72.
 legi, 180.
- m, loss of final, in Latin, 69.
- μ, influence of, in assimilation, 73.
 magister, 126.
 -mans, dat. plur. (Old Prussian), 121.
 Μαραθώνι, 118.
 mēd, abl., 135.
 -men, nom. suffix, 210.
 -μεν, -mes, -mus, 1 plur., 160.
 -μεναι, -μεν, infin., 209.
 μένος, declension of, 129.
 mihē, 135.
 -mini, 2 plur., 167.
 minister, 126.
 mis, old gen. sing., 135.
- nē, nē, 229.
 nos, νω, 136.
 nulli, gen., 145.
- O, Ω, in Greek, 42.
 -φ, dat. sing., 120.
 -oes, -oe, nom. plur., 107.
 -oi, -ai, nom. plur., 185.
 -oi, vocative and locative, 110.
 -oi, gen. (Thessalian), 112.
 -ō, adverbial termination, 228.
 οἶδα, ἰδμεν, 177.
 οἴκοι, 118.
 -oio, gen. sing., 111.
 οἶσθα, 161.
 oillus, 145.
 oloes (= illis), 122.
 -om (-um), infin. (Italian dialects), 213.
 ὁμῶς, 116.
 oriundus, 54.
 ὄρσο, ὄρσο, 198.
 ὄρτο, 155.
 ὅς, ὅ, 143.
 -os, gen. sing. in Greek, 111.
 -os, -us, gen. sing. (Latin), 144.
 -oso, adjectival suffix, 215.
 -ως, perf. participle, 215.
 -os, adverbial termination, 116, 232.

padas, Sanskrit (= πῶδος, πῶδες, πῶδας), 34, 53.
paṇḍit, 185.
palazzo, 74.
πάντη, adverb, 123.
parentes, 185.
paricidas, 103.
Parilia, 75.
paterfamilias, 114.
pe, in *nempe*, etc., 229.
πιστός, 75.
πλεχθείς (πλέκ-ω), 47, 72.
πόλεις, πόλῆες, 105.
πόλεως, πόλῆος, 112.
pone, adverb, 229.
posui, 181.
praetens, 216.
proximus, 126.
pte, 229.

Q, see Koppa.

qu, 47.
quaestius, *quaesti*, genit., 113.
quis, *quīs*, *quid*, etc., 146.
quis, adverb, 229.
quievi, 181.

r, affinity of to *e*, 57.
ρ, doubled after augment, 157.
-rem, imperf. subj., 207.
reppuli, 179.
ρέω, *ρεύσομαι*, *ἐρύ-ην*, 189.

Σ, S, different forms of, 42.
s, changes of, 62, 63.
-s, final, loss of, 63.
-s, initial, loss of, 66.
σ in Greek, 70, 192.
ss in Latin, origin of, 71.
-s, nom. suffix, 103.
-s, nom. plur., 105.
sa = *δ*, 103.
-σα, weak aorist, 197.
-sas, *-sās*, nom. plur. and dual, 105.

Samnium, 75.
σαφής, *σαπίο*, 77.
scibam, 205.
se, reflexive, 137.
-se, infinitive, 212.
secundus, 54.
-σεια, optat., 199.
σείο, 137.
sequor, *ἐπομαι*, 47.
-σι, *-σι*, dat. plur., 119.
-si (Latin perfect), 180.
sibi, 138.
siem, *sim*, 174.
-σκω, *-σκο*, (Inchoative), 195.
somnus, 75.
stella, 16, 78.
-σθα, 2 sing., 162.
suus, 137.
σφῶι, 137.
-sya, gen. sing., 111.

t, change of to *s* before *i*, 73.
-τατος, superl., 126.
τηνεί, *τείδε*, etc., 118.
τεοῦς, *τεῦς*, 137.
-ter, adverbial suffix, 230.
-τερος, compar., 125.
tetuli, 179.
τέτυθαι, 212.
-tim, adverbial termination, 230.
-tio, *-cio*, pronunciation of, 74.
τίθημι for *θι-θημι*, 47.
-τι, 2 sing. imper., 161.
θυγάτηρ, daughter, *tochter*, 82.
θύρα, *fores*, door, 82.
-θω, verbal termination, 207.
τόλιν, 123.
τὸς = *τοῦς*, 109.
-tor, noun suffix, 220.
-τρια, *-τρον*, *-trum*, noun suffix, 220.
tulērunt, 182.
τύνη, 136.
-turio, desiderative, 194.

-turo, fut. partic., 219.
-tus, past part. and supine, 217.
τύφθητι, 1 aor. imperat., 75.

υ̅ *φιλόν*, 31.
υ (F); see 'Digamma.'
υ, its affinity to *m*, *l*, 53.
-υειν, *-υερε*, *-υρειν*, *-υλλειν*, etc., of derivative verbs, 236.
-υι, *-υι*, perfect suffix, 180.
vicens, 74.
vixem, 208.
-ūs, *-ūs*, gen. sing. 112, 113.

Ϙ, as numeral sign in Roman alphabet, 44.
φαίνω, *ἐ-φάν-ην*, 192.
φερέτωσαν, 165.
φερόντων, 3 pl. imp., 164.
-φιν (*-ν*), dat. dual, 123.
-φιν, *-φι*, instrumental, 123.
φιλήσας, 1 aor. partic., 109.
φρούδος, 77.

Ψ, the character, 43.
ψιλῶς *γράφειν*, 31.

Χ, the character, 43.

Υ, the character, 44.
y, semivowel sound of *i*, Preface vii, 34.

Z, ζ, Greek, 42.
Z, Latin, 44.
ζ = *dy*, 72, 76, 236.
Zeus, 148.
ζυγόν, *jugum*, 76.

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122





